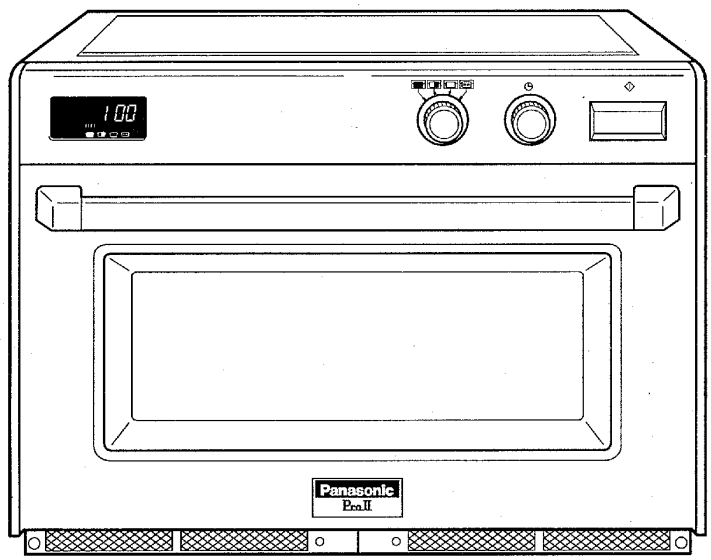
ORDER NO. MOD9608108C2

Service Manual

Microwave Oven

NE-2740
NE-1880
NE-1580
NE-1540



Specifications

		NE-2740	NE-1880	NE-1580	NE-1540
Power Source :		230-240 V AC Single Phase, 50Hz			
Power Requirement :		4.4 KW	3.4 KW	2.7 KW	
High frequency Output :	HIGH	2700 W (IEC-705)	1800 W (IEC-705)	1500 W (IEC-705)	
	MED	1350 W	900 W	750 W	
	LOW	340 W	340 W	340 W	
	DEF	170 W	170 W	170 W	
Frequency :		2450 MHz			
Timer :		NE-2740, NE-1540: 60 Min. NE-1880/NE-1580: 15 Min. ····· HIGH, MED 60 Min. ····· LOW, DEF and STAND			
Outside Dimensions :		650 mm (W) X 526 mm (D) X 471 mm (H)			
Oven Cavity Dimensions :		535 mm (W) X 330 mm (D) X 250 mm (H)			
Weight :		65 kg	54 kg		
Specification subject to change without notice.					

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

This service manual covers products for following markets.
When troubleshooting or replacing parts, please refer to the country identifications shown below for your applicable product specification.
BPQ·····For United Kingdom

WARNING

This products should be serviced only by trained, qualified personnel.

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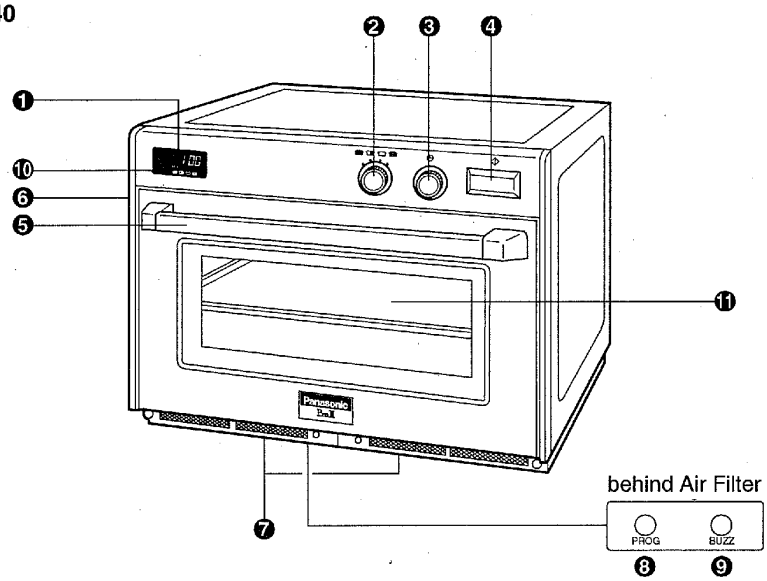
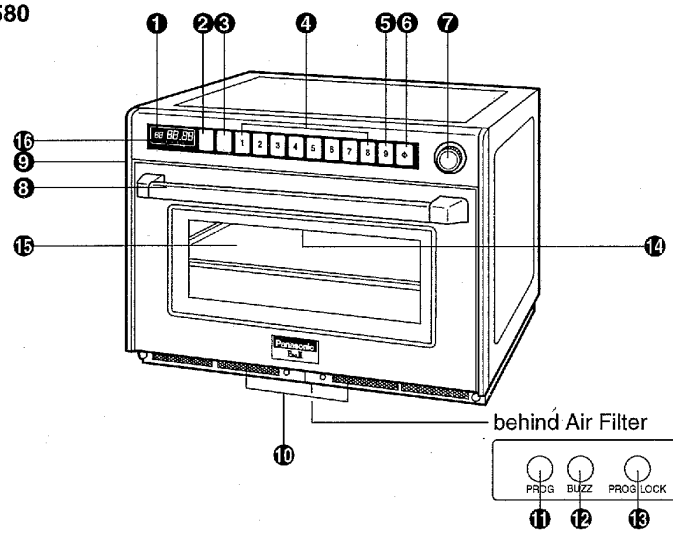
OUTLINE DIAGRAM

NE-2740,NE-1540



❶ Digital Display Window(see below)
❷ Power Level Selector Dial
❸ Time Dial
❹ Start Button
❺ Door Handle
❻ Oven Lamp Cover
❼ Air Filters
❽ Program Entry Switch (behind Air Filters)
❾ Buzzer Switch (behind Air Filters)
❿ Power Levelindicator Display
⓫ Middle Shelf

NE-1880,NE-1580



❶ Digital Display Window(see below)
❷ Power Level Selector Pad( )
❸ Memory Shift Pad(A►B)
❹ Memory Pads
❺ Stop Cancel Pad( )
❻ Start Pad( )
❼ Timer Dial
❾ Oven Lamp Cover
❿ Air Filters
⓫ Program Entry Switch (behind Air Filters)
⓬ Buzzer Switch (behind Air Filters)
⓭ Program Lock Switch (behind Air Filters)
⓮ Control Panel

OPERATION PROCEDURE (NE-1880/NE-1580)

1. Manual heating for single stage

OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle.	
2. Open the door. Place a water load in the oven and close the door.	0
3. Tap POWER LEVEL pad ( ) once. (Set to High power)	0
4. Set the desired heating time by turning the timer dial. (Set to 2 minutes)	2 00
5. Tap START pad ( ).	1 59
6. When the time is up, you hear 3 beeps sound.	0
7. Open the door and take out the water load. The display goes back to previously setting time.	2 00
8. Close the door. 1 minute later, display will return blank.	

2. Manual heating for 2nd or 3rd stage

OPERATION	DISPLAY
1. Follow step 1 to 4 for single stage.	2 00
2. Tap POWER LEVEL pad ( ) twice. (Set to MED power)	0
3. Set the desired heating time by turning the timer dial. (Set to 1 minute)	1 00
4. Tap START pad ( ). (1st stage)	2 59
5. When the 1st stage time is up, you hear 1 beep sound. (2nd stage)	59
6. When the time is up, you hear 3 beeps sound.	0
7. Open the door and take out the water load. The display goes back to previously setting time.	3 00
8. Close the door. 1 minute later, display will return blank.	

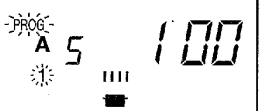
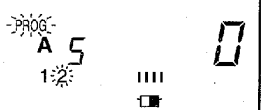
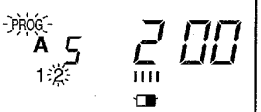
NOTE: For a 3rd stage heating cycle, select a further power level and time between steps 3 and 4 above.

3. Memory setting for single stage

OPERATION	DISPLAY
1. Display must be blank before programming can begin. Touch (PROG) pad.	
2. Tap [5] pad. (Set to memory pad 5) NOE: Previously selected power and time will appear.	
3. Tap [POWER LEVEL] pad ( ) once. (Set to High power)	
4. Set the desired heating time by turning the timer dial. (Set to 1 minute)	
5. Touch (PROG) pad again.	
6. 3 seconds after, the display window will go blank.	

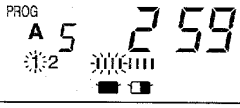
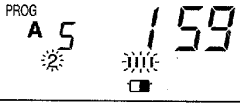
TO PROGRAM MEMORY AREA B: Follow steps 1 above. Touch the Memory Shift pad [A▸B] and a small "B" will appear beneath the flashing "PROG".
Touch the memory pad you wish to program, and the previously selected time and power level will appear in the display window.
NOTE: Once the Memory area B has been selected it cannot be changed back to Memory area A. If you do not require Memory area B, cancel it by touching the cancel pad and begin again.

4. Memory setting for 2nd or 3rd stage

OPERATION	DISPLAY
1. Follow steps 1 to 4 for memory setting for single stage.	
2. Tap [POWER LEVEL] pad ( ) twice. (Set to MED power)	
3. Set the desired heating time by turning the timer dial. (Set to 2 minutes)	
4. Touch Program pad again. Heating time is displayed by adding single and 2nd stage heating time.	
5. 3 seconds after, the display window will become blank.	

NOTE: For a 3rd stage heating cycle, select a further power level and dial in a time, between steps 3 and 4 above.

5. Memory pad heating

OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle.	
2. Open the door. Place a water load in the oven and close the door.	
3. Tap [5] pad.	
4. Tap [START] pad ( ). (1st stage)	
5. (2nd stage)	
6. When the time is up, you hear 3 beeps sounds.	
7. Open the door and take out the water load.	
8. Close the door. Display will return blank after 1 minute.	

NOTE: When program is locked, heating can be started automatically by tapping memory pad.

6. To Read the Cycle Counter

OPERATION	DISPLAY
1. Open the door and close.	0
2. While pressing (BUZZ) switch, press (PROG) switch. The display shows the number of times the oven has been used.	66 66
3. 3 seconds later, the display will go blank.	

NOTE: Total cumulative number includes programming memory heating and manual heating number of times has been used. Cooking times over 99,999 times will be back 0.

7. To Activate Program Lock

OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle. Do not open the door.	
2. Press and hold (PROG LOCK) switch until the display show "PROG", "P" and "L". (for more than 5 seconds)	PROG
3. Programme lock feature now - activated.	PROG P L

8. To Release Program Lock

OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle.	
2. Press and hold (PROG LOCK) switch until the display will show "PROG" and "P". (for more than 5 seconds)	0
3. Program lock feature is now deactivated.	PROG P

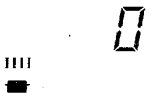
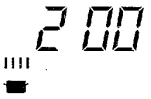
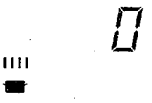
9. To Select Beep Tone Options

OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle.	
2. Press (PROG) switch.	PROG
3. Press (BUZZ) switch.	PROG 1 3 bE EP
4. Select the desired sound loudness level by pressing (BUZZ) switch. Repeated pressing of (BUZZ) switch will lower the loudness and all the way to silent.	PROG 1 2 bE EP
5. Press (PROG) switch again.	PROG 1 2 bE EP
6. 3 seconds later display window will go blank.	

To select length of tone at end of heating cycle there are 2 options.
A. 3 beeps (factory setting)
B. 60 seconds of short beeps.
To set for 60 seconds of short beeps.

OPERATION	DISPLAY
1. Complete steps 1-4 above.	PROG 1 2 bE EP
2. Press (PROG) switch and quickly select the desired tone length by pressing (BUZZ) switch. "1" illuminated 3 beeps. "2" illuminated 60 seconds of beeps.	PROG 2 2 bE EP
3. Press (PROG) switch again.	PROG 2 2 bE EP
4. 3 seconds later, the display will go blank.	

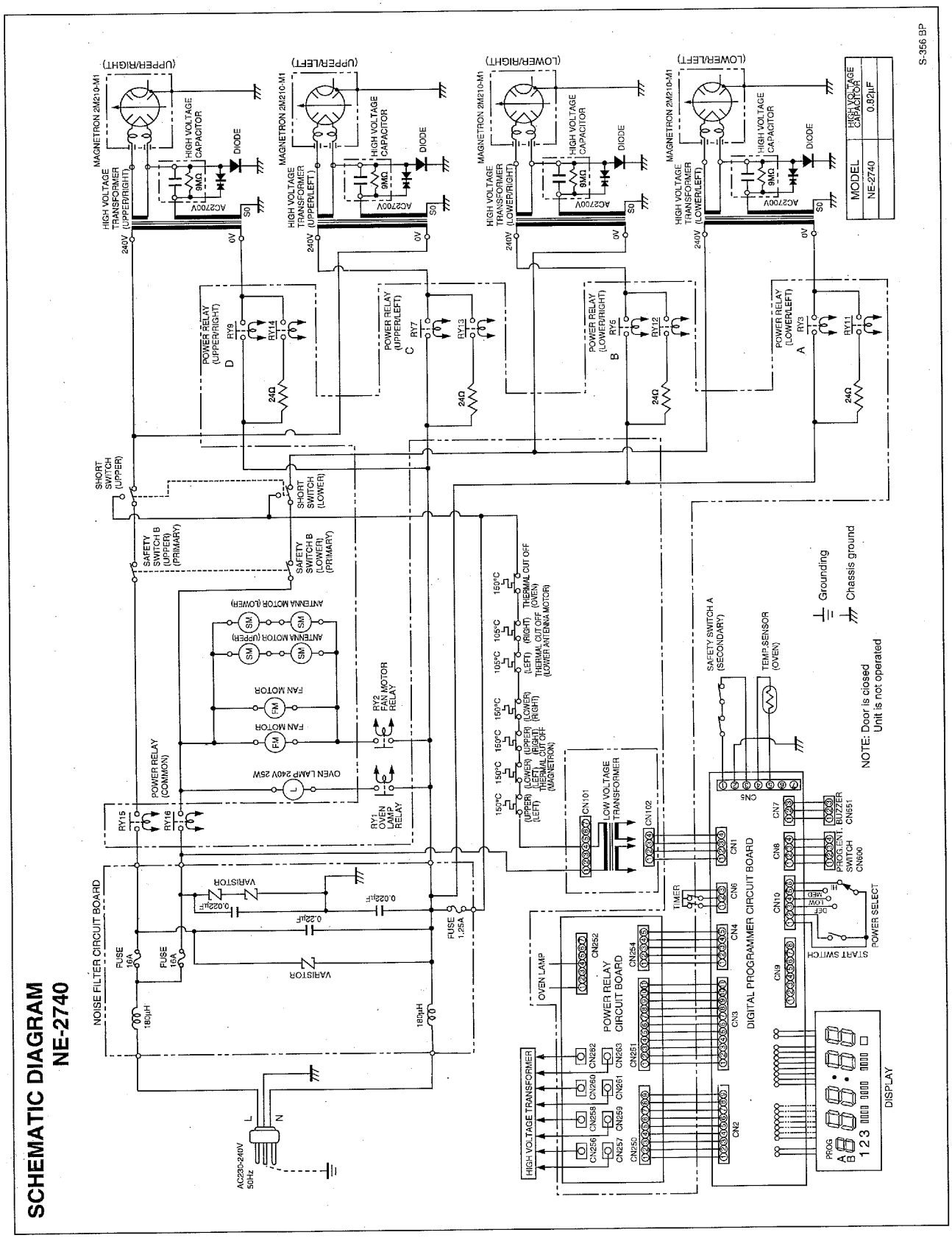
OPERATION PROCEDURE (NE-2740/1540)

OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle.	
2. Open the door. Place a water load and close door.	
3. Select desired power level if other than ■ (HIGH) power.	
4. Set the desired heating time by turning the timer dial.	
5. Press the start button.	
6. When the time is up, display will blink "0" until door is opend.	
7. Open the door and remove water load.	
8. Close the door. 1 minute later, display will go blank.	

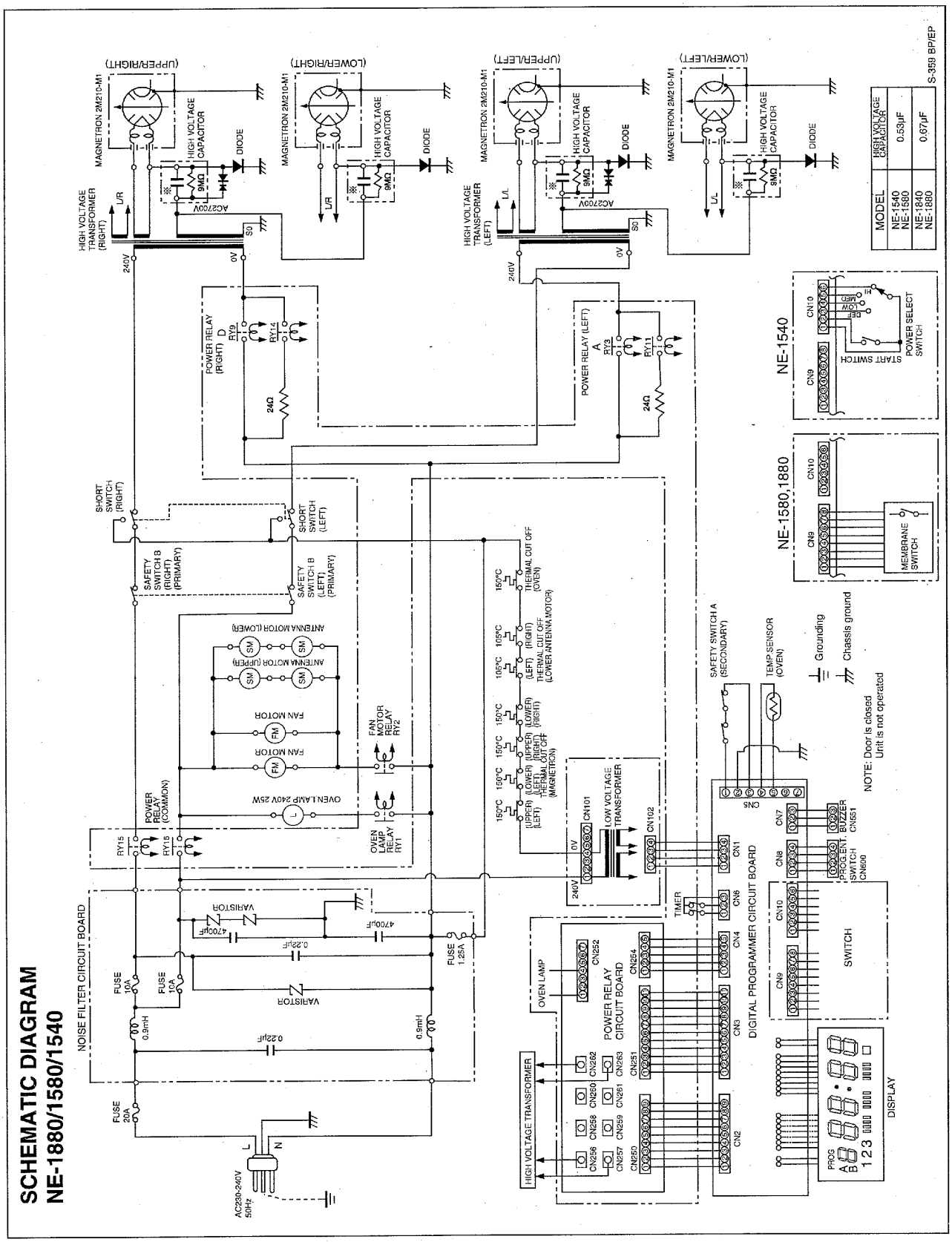
Notes:

1. When you press the Start Button with door open, "0" will appear in the display in all cases.
2. Even after setting the heating time you can still change the power level.
3. If you wish to change the heating time during heating, simply adjust the timer to desired minutes and seconds.

SCHEMATIC DIAGRAM NE-2740

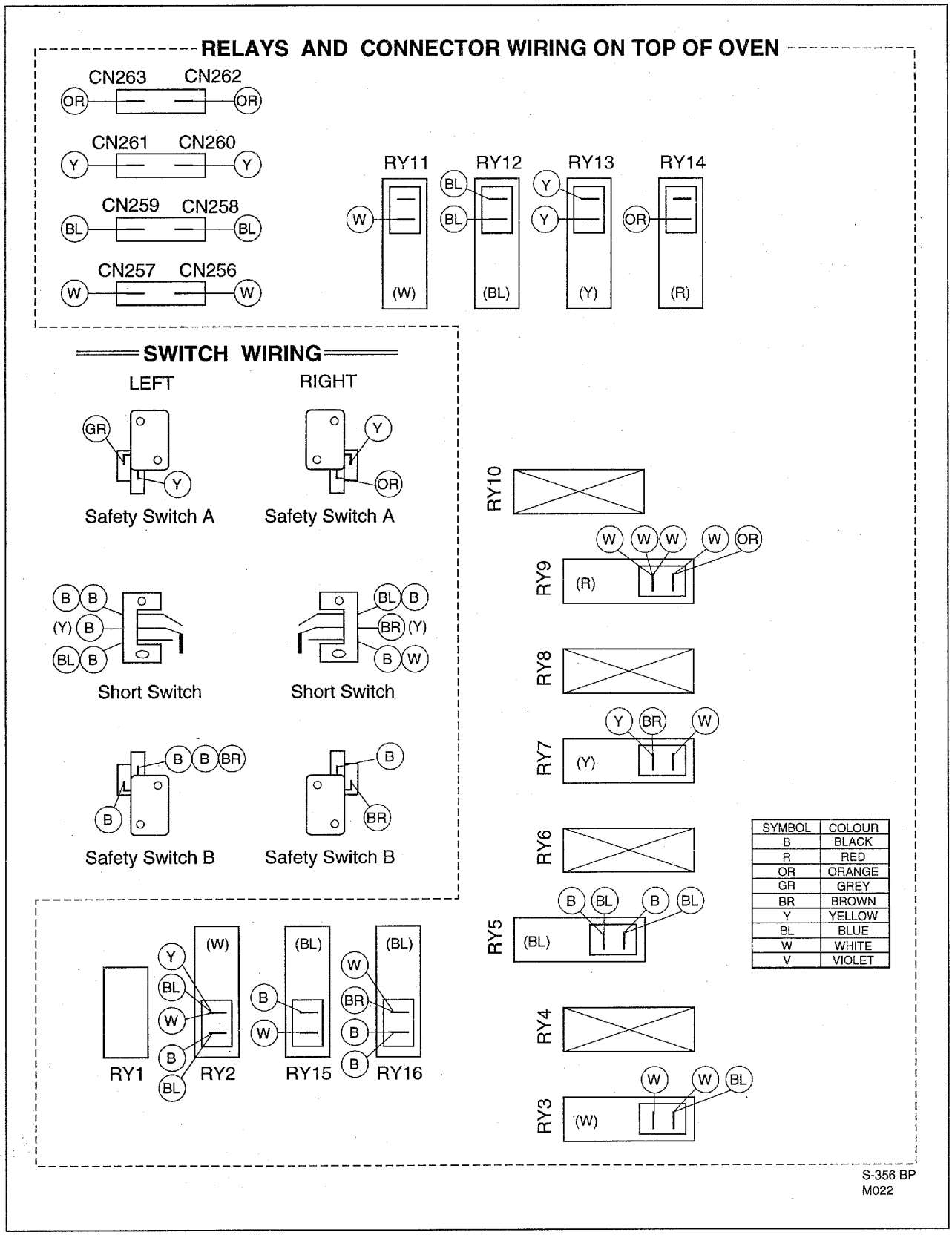


SCHEMATIC DIAGRAM NE-1880/1580/1540

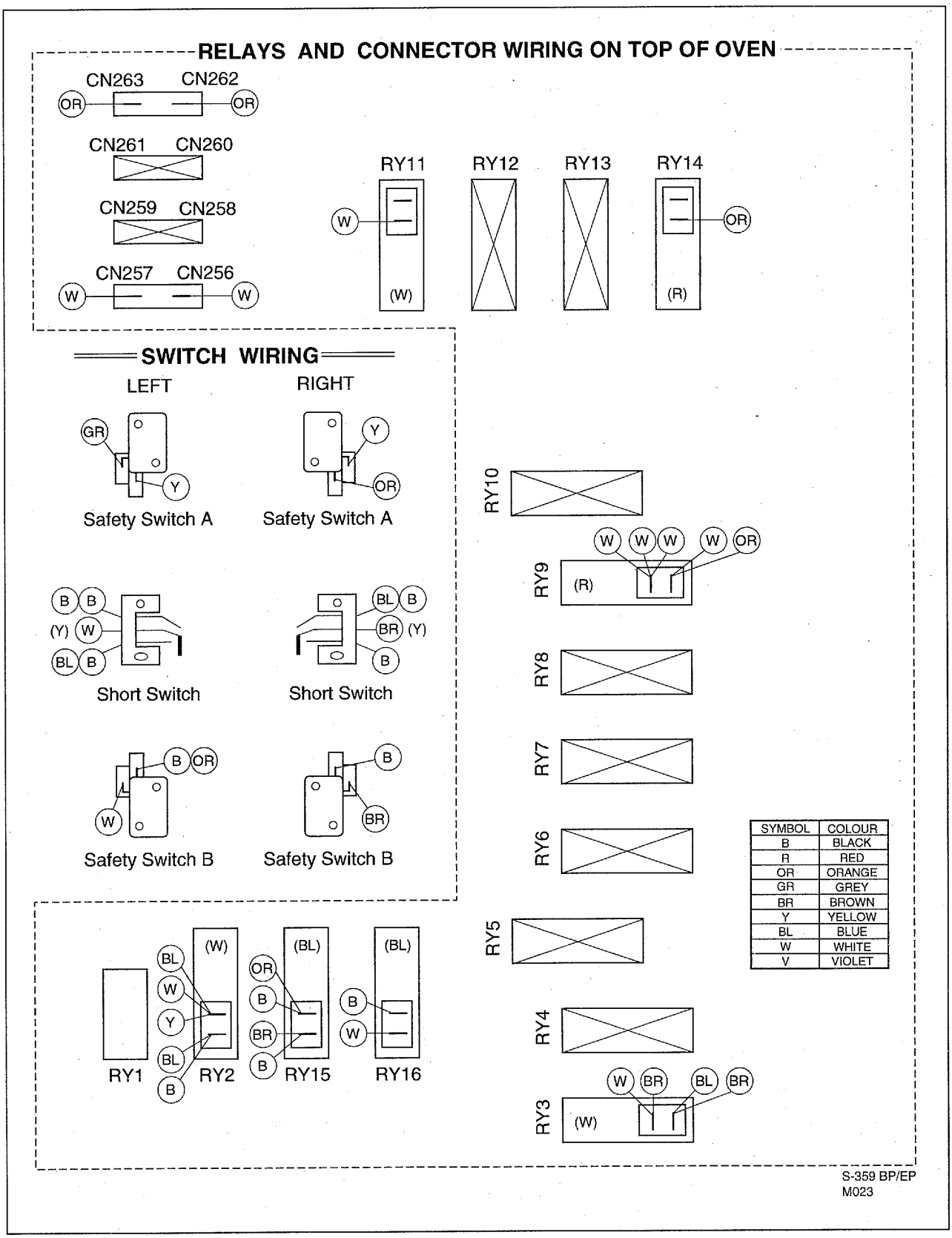


WIRING DIAGRAM NE-2740

NOTE: When replacing, check the lead wire colour as shown.



WIRING DIAGRAM NE-1880/1580/1540



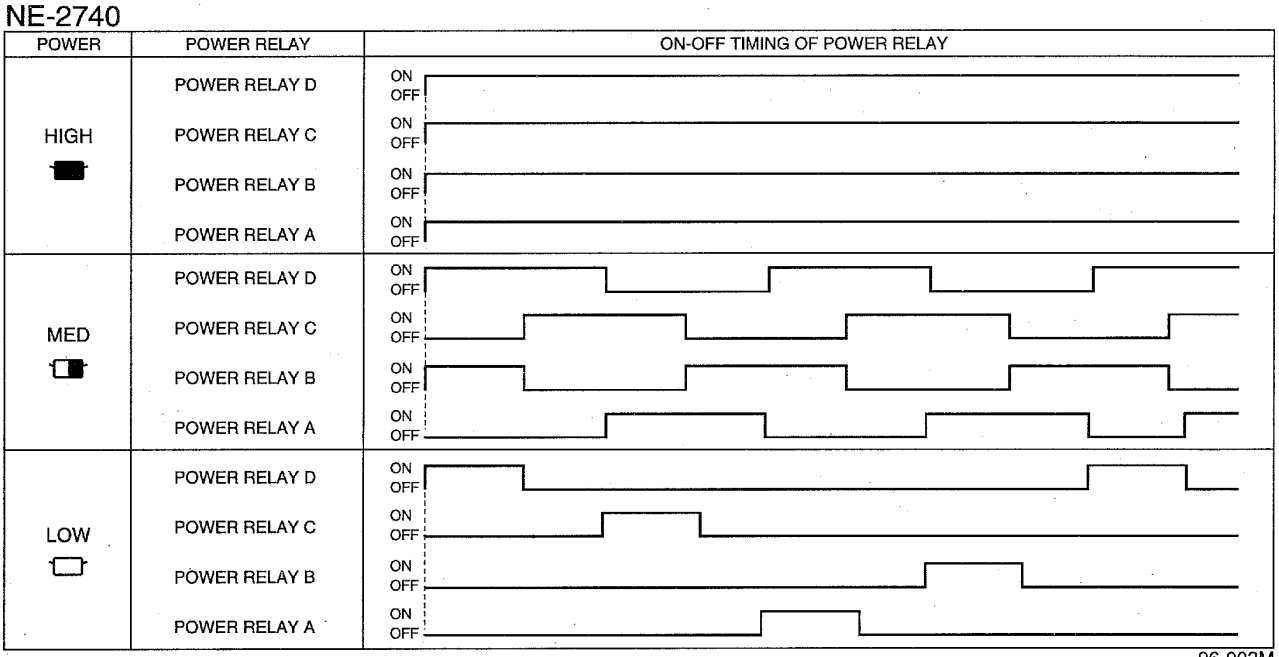
DESCRIPTION OF OPERATING SEQUENCE

Variable power cooking control

The coil of power relays are energized intermittently by the digital programmer circuit, when the oven is set at any power selection except for High power position. The digital programmer circuit controls the ON-OFF time of the power relays contacts in order to vary the output power of the microwave oven. The relation between indications on the control panel and the output power of the microwave oven is as shown in table.

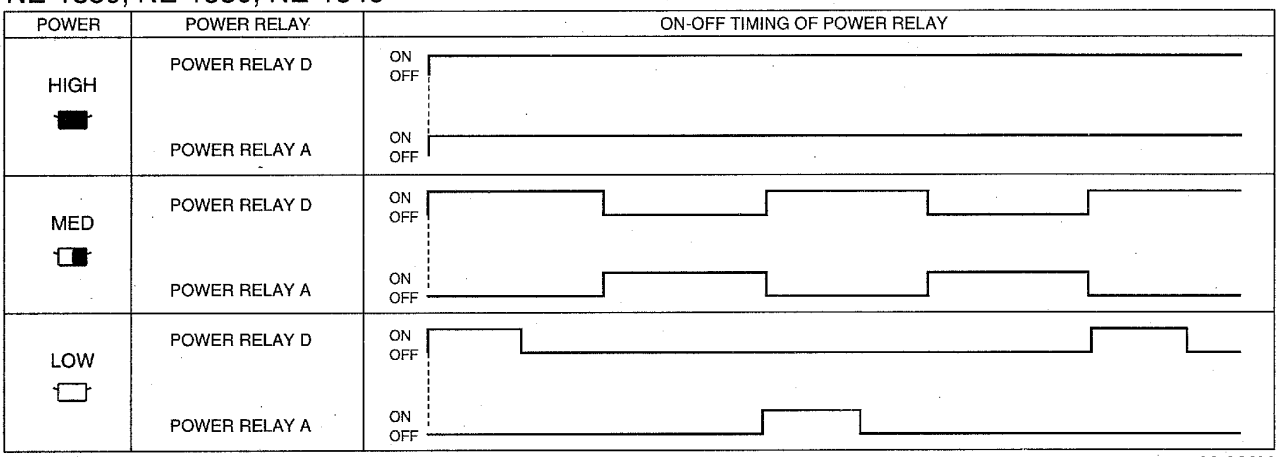
NOTE: ON-OFF time of power relays are changed by digital programmer circuit when remaining cooking time or selected cooking time are within 8 minutes at MED, LOW and Defrost cooking mode.

NE-2740



96-003M

NE-1880, NE-1580, NE-1540



62-009M

2. Defrost control

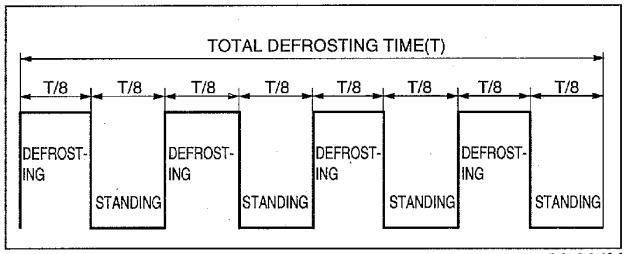
When defrost power and defrosting time is selected and Start pad is touched:

(A) The digital programmer circuit (DPC) divides the total defrosting time into 8 equal periods, consisting of four defrosting periods, each followed by a standing period. (See **figure**)

(B) During defrosting power periods, power relay ON-OFF time is controlled at Low power mode by DPC.

(C) During Standing periods, power relay is always open resulting in no microwave power.

NOTE: Defrost time selected is converted into seconds by the DPC but display will show selected time in minutes and seconds as programmed. The total number of seconds is divided into 8 time periods. The remainder (seconds not equally divisible by 8) are added to the last standing time period.



96-004M

CAUTIONS TO BE OBSERVED WHEN TROUBLESHOOTING

Unlike many other appliances, the microwave oven is high voltage, high current equipment.
Though it is free from danger in ordinary use, extreme care should be taken during repair.

CAUTION

Servicemen should remove their watches whenever working close to or replacing the magnetron.

1. Check the earthing

Do not operate on a 2 wire extension cord. The microwave oven is designed to be used in a completely earthed condition. It is imperative, therefore, to make sure it is properly earthed before beginning repair work.

2. If the door lock, the door switch, the door seal or the door develops a malfunction, be sure not to operate the oven until complete repairs are made.

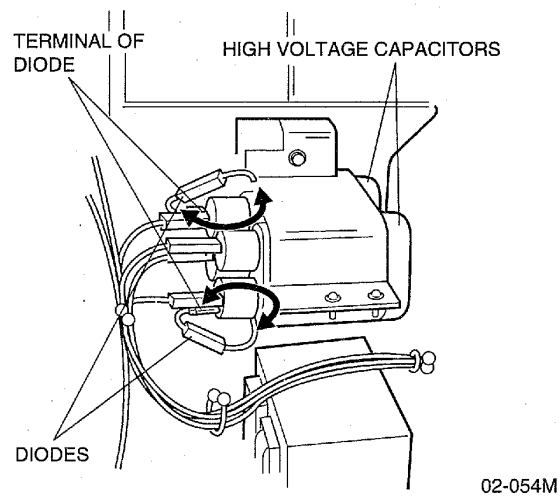
If the oven is operated with any of these parts in imperfect condition, hazardous microwave leakage might occur.

WARNING

Never operate the oven until the following are confirmed:
(A) The door is tightly closed.
(B) There is no broken hinge or door arm.
(C) The door seal is not damaged.
(D) The door is not bent or warped.
(E) There is no other visible damage.

3. Warning about the electric charge in the high voltage capacitor.

For about 30 seconds after the oven is turned off, an electric charge remains in the high voltage capacitor. When replacing or checking parts, remove the power plug from the outlet, wait 30 seconds and short the terminal of the high voltage capacitor (terminal of lead wire from diode) to chassis ground with an insulated jumper lead wire or an insulated handle screwdriver to discharge.



Discharge the 2 High Voltage Capacitors.
Touch chassis side first then short to the high voltage capacitor terminal.

Important Note

1. High voltage above 250 volts are existing on following parts during operation.
   *Magnetron
   *High Voltage Transformer
   *High Voltage Diode
   *High Voltage Capacitor
   Unusual attention should be paid during repair or troubleshooting of product.
2. If the microwave oven is operated with incorrect installed door hinge or magnetron, it can cause microwave leakage of over 5mW/cm^2.
   Hence it is absolutely necessary to check if magnetron and door hinge are correctly and safely installed after repairs or replacement.

WARNING

Never touch any circuit wiring with your hand nor with an insulated tool during operation.

4. When parts must be replaced, always remove the power plug from the outlet, and discharge the high voltage capacitor.

5. Confirm after repair

(A) After repair or replacement of parts, make sure that the screws of the oven, etc. are neither loose nor missing.
Microwave might leak if screws are not properly tightened.
(B) Make sure that all electrical connections are tight before inserting the plug into the wall outlet.

6. Avoid inserting nails, wire, etc. through holes in unit during operation.

Never insert a wire, nail or any other metal object through the lamp holes on the cavity or any other holes or gaps, because such objects may work as an antenna and cause microwave leakage.

7.

CAUTION
MICROWAVE RADIATION

Personnel should not be exposed to the microwave energy which may radiate from the magnetron or other microwave generating device if it is improperly used or connected all input and output microwave connections waveguides, flanges, and gasket must be secure. Never operate the device without a microwave energy absorbing load attached. Never look into an open waveguide or antenna while the device is energized.

8.

CAUTION

High voltage parts may become uncovered when outer cabinet is removed.

DISASSEMBLY AND PARTS REPLACEMENT PROCEDURE

CAUTION
Servicemen should remove their watches whenever working close to or replacing the magnetron.

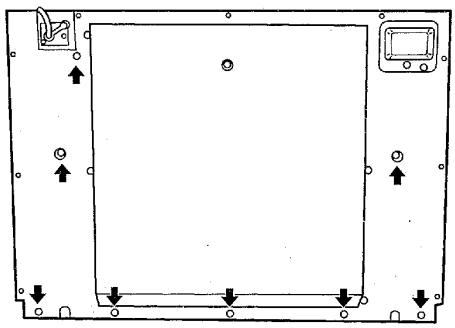
1. Magnetrons (Upper and Lower)

Upper magnetrons (Right and Left)
(A) Discharge electric charge remaining on the high voltage capacitors.
(B) Remove the entire rear panel by removing screws as shown in **figure.**
(C) Disconnect all lead wires from magnetron and thermal cutout.
(D) Remove the 4 screws holding magnetron.
(E) Remove 2 screws holding thermal cutout.
(F) Remove the mounting bracket from magnetron and install it on the new magnetron.

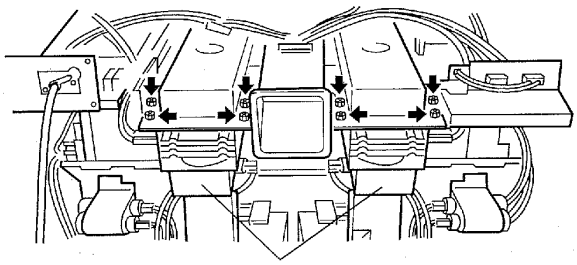
Lower magnetrons (Right and Left)
(A) Discharge electric charge remaining on the high voltage capacitors.
(B) Remove the entire rear panel by removing screws as shown in **figure.**
(C) Disconnect all lead wires from magnetron and thermal cutout.
(D) Remove the 4 screws holding magnetron.
(E) Remove 2 screws holding thermal cutout.
(F) Remove the air guide from magnetron and install it on the new magnetron.

NOTE: To prevent microwave leakage, tighten mounting screws properly making sure there is no gap between the waveguide and the magnetron.

CAUTION
When connecting 2 filament lead wires to the magnetron terminals, be sure to connect the lead wires in the correct position. The lead wire with blue connector should be connected to "FA terminal" and white one should be connected to "F terminal". (See **Figure**)

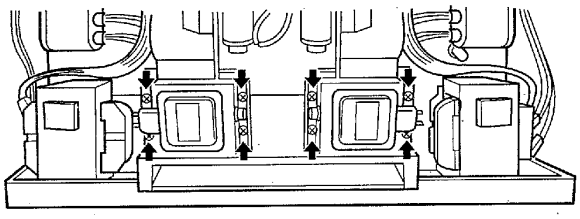


02-049M

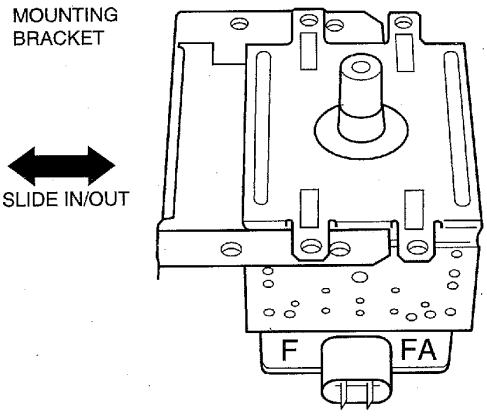


UPPER
MAGNETRONS

02-050M



02-051M



08-039M

2. Digital programmer circuit board

(A) Remove grounding screw for membrane switch and D.P.C. ground.
(B) Remove 2 screws holding control panel assembly to detach it from main unit then remove connectors.
(C) Remove 2 screws holding the D.P.C. board and remove the board by freeing catch hooks.

NOTE: Please use care in handling the power supply P.C.B. and D.P.C. board to avoid damage.

3. Low voltage transformer and/or power relays

NOTE: Be sure to ground any static electric charge built up on your body before handling the DPC.

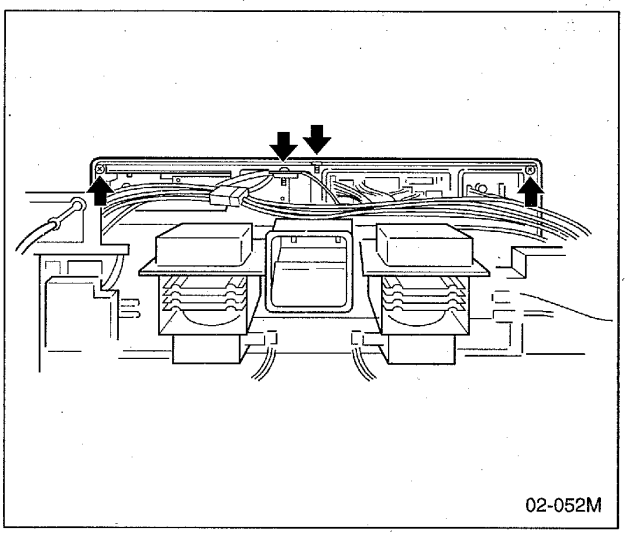
(A) Using solder wick or a desoldering tool and 30W soldering iron, carefully remove all solder from the terminal pins of the low voltage transformer and/or power relays.

NOTE: Do not use a soldering iron or desoldering tool of more than 30 watts on DPC contacts.

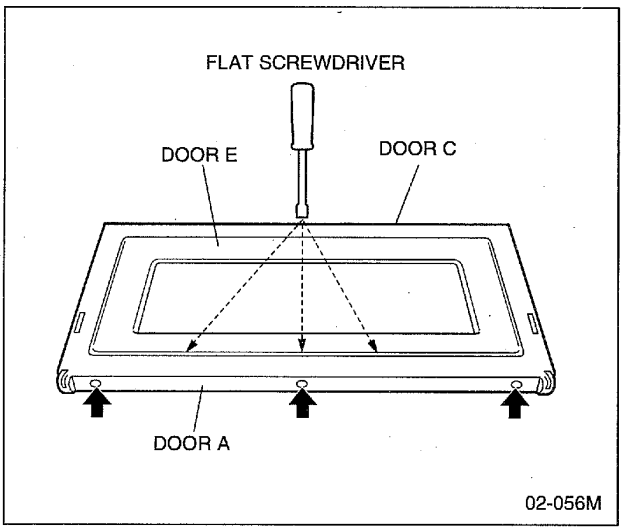
(B) With all the terminal pins cleaned and separated from DPC contacts, remove the defective transformer/power relays and install new transformer/power relays making sure all terminal pins are inserted completely. Resolder all terminal contacts carefully.

4. Disassembly of door assembly

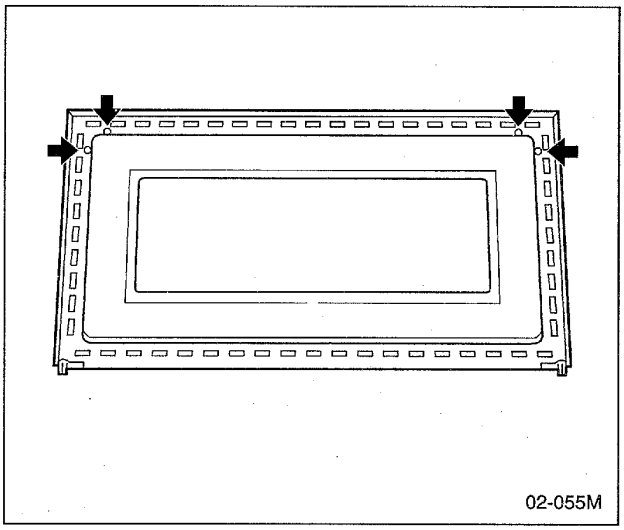
(A) Detach the door spring ends from right and left door arms.
(B) Remove the arm lever right and left by removing 2 screws each on both sides.
(C) Remove the sashes right and left by removing 1 screw each on both sides.
(D) By holding the door assembly, remove the right and left sides door hinge pins.
The door assembly is now free from the oven.
(E) Remove 3 screws holding the door A.
(F) Remove the door C by using a flat screwdriver as **figure**.
(G) Remove 4 screws holding door handle.
(H) Separate door A and door E.
(I) Remove the door arms by removing 1 pin each on both sides.



02-052M



02-056M



02-055M

5. Upper antenna (Right and Left)

Upper antenna (Right and Left)

(A) Remove 8 plastic clips holding ceiling plate and exhaust guides by using flat screwdriver or the like.

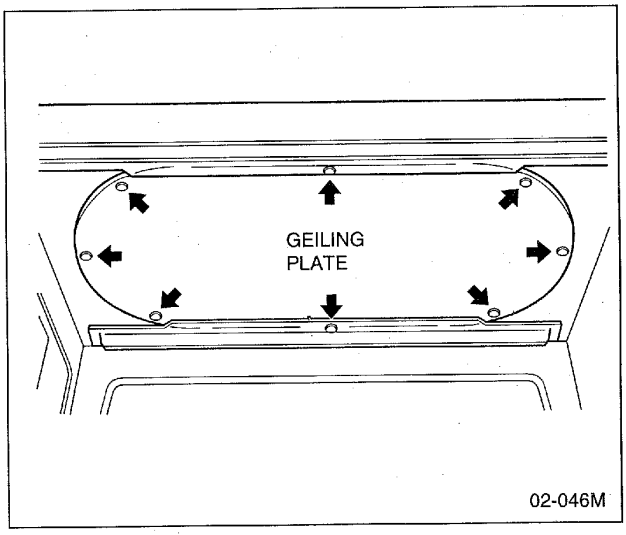
(B) Remove 2 screws holding upper antenna assy by inserting screwdriver through the opening on the antenna as shown in **figure**.

6. Lower antenna (Right and Left)

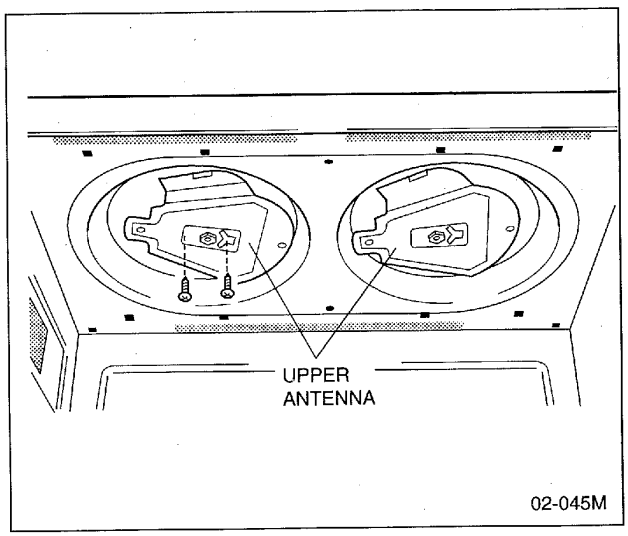
Lower antenna (Right and Left)

(A) To remove the floor shelf, insert a screwdriver through the openings on the right and left sides of the oven cavity and carefully lift the floor shelf as shown in **figure**.

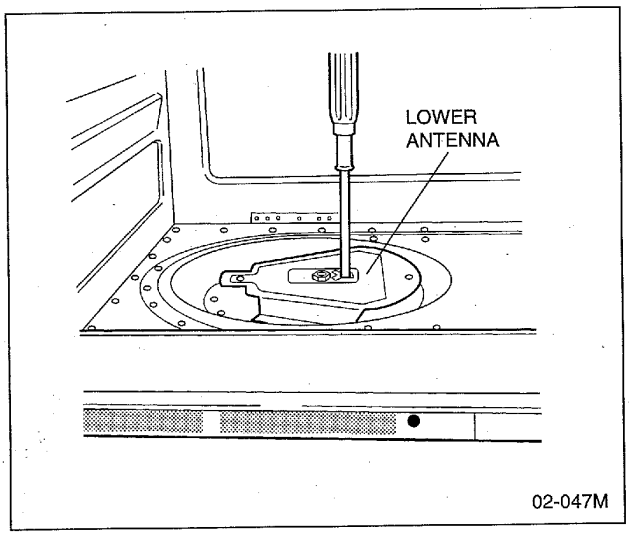
(B) Remove 2 screws holding lower antenna assy by inserting screwdirver through the opening on the antenna as shown in **figure**.



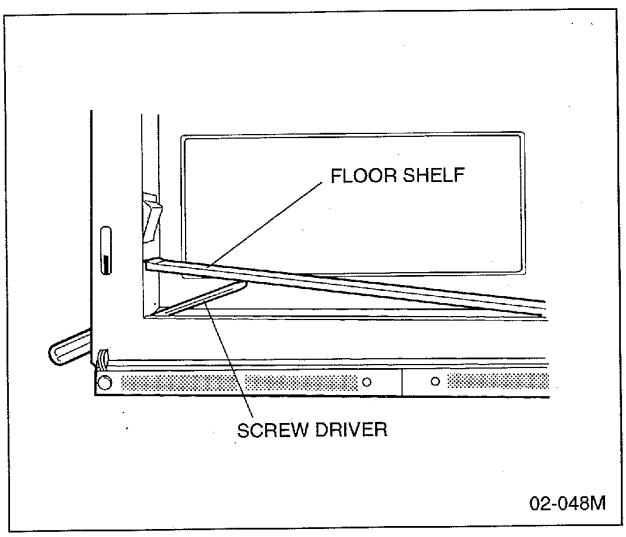
02-046M



02-045M



02-047M



02-048M

7. Replacement of temperature sensor (Thermal protector)

(A) Cut 2 lead wires at the top of sensor terminals.
(B) Remove 2 screws holding temp sensor and replace with new one.
(C) Solder the lead wires securely to the sensor terminals.

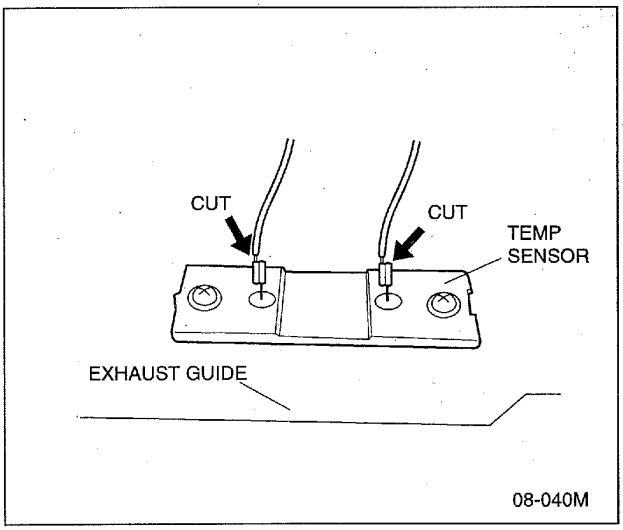
8. Replacement of antenna motors (upper and lower)

(A) The upper antenna motor may be removed by disconnecting the lead wire connectors and removing its 2 mounting screws.
(B) To remove the lower antenna motor, carefully place the unit on its left side.
(C) Remove the motor cover by removing 2 screws and follow same procedure as for upper antenna.

CAUTION

There are two types of antenna motors Therefore please replace with correct one as showing below.

Upper Antenna Motor	PART NO. : ANE61446030AP (RATED: 120V)
Lower Antenna Motor	PART NO. : A6144-3280 (RATED: 120V)



COMPONENT TEST PROCEDURE

CAUTION

1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components, or wiring, always unplug the oven from its power source and discharge the high voltage capacitor.

1. High voltage transformer

(A) Remove connections from the transformer terminals and check continuity.
(B) Normal (cold) resistance readings should be as follows:

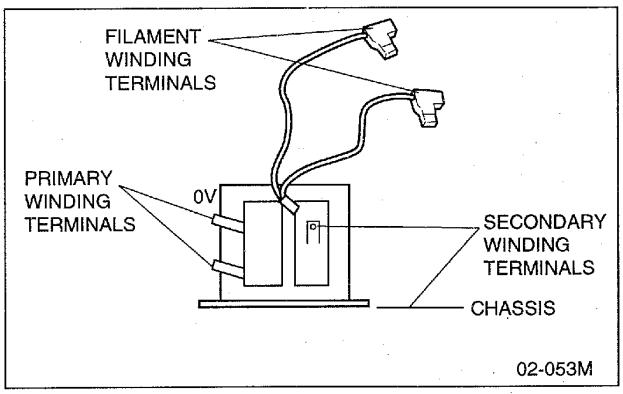
Secondary winding	Approx. 40 Ω ~ 100 Ω
Filament winding	Approx. 0 Ω
Primary winding	Approx. 0 Ω ~ 3 Ω

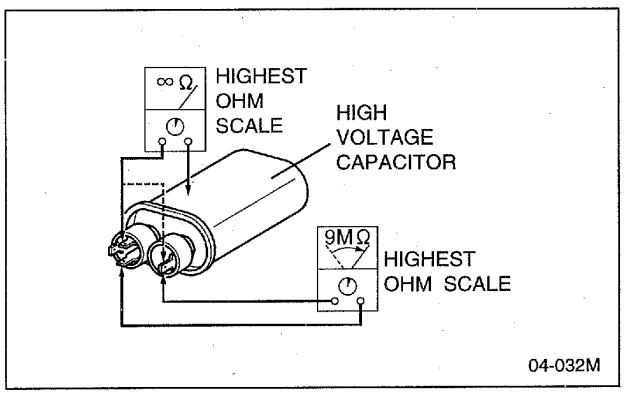
2. High voltage capacitor

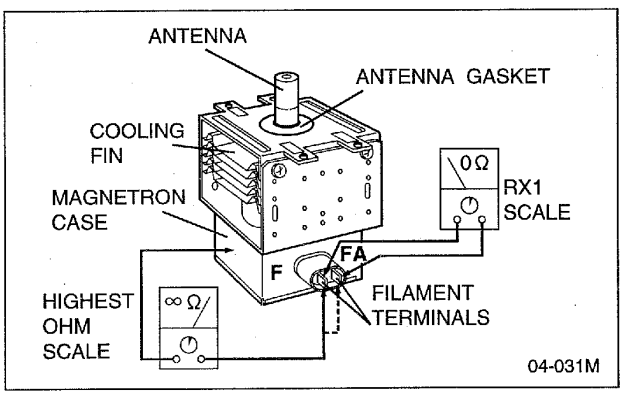
(A) Check continuity of capacitor with meter on highest OHM scale.
(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.
(C) A shorted capacitor will show continuous continuity.
(D) An open capacitor will show constant 9MΩ.
(E) Resistance between each terminal and chassis should be infinite.

3. Magnetron

Continuity checks can only indicate an open filament or a shorted magnetron. To diagnose for an open filament or shorted magnetron.
(A) Isolate magnetron from the circuit by disconnecting the leads.
(B) A continuity check across magnetron filament terminals should indicate one ohm or less.
(C) A continuity check between each filament terminal and magnetron case should read open.

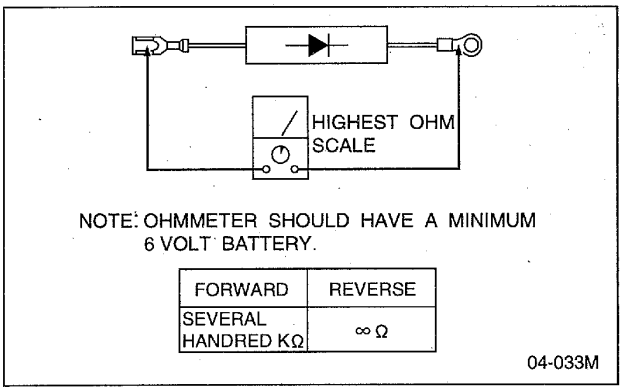






4. Diode

(A) Isolate the diode from the circuit by disconnecting the leads.
(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the diode terminals. Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the front-to-back resistance of the diode, otherwise an infinite resistance may be read in both directions.
A normal diode's resistance will be infinite in one direction and several hundred kΩ in the other direction.

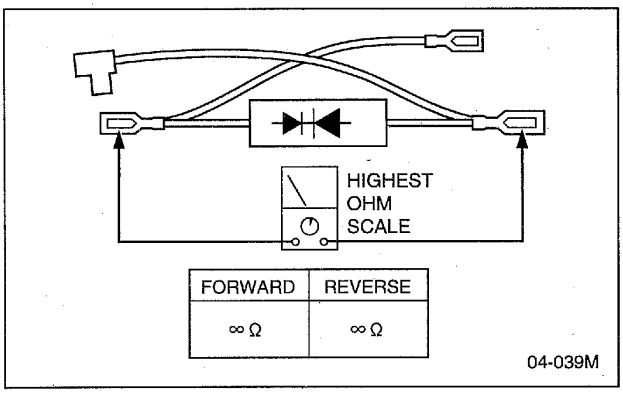


5. Membrane key board (Membrane switch assembly)

Check continuity between switch terminals, by tapping an appropriate pad on the key board. The contacts assignment of the respective pads on the key board is as shown in digital programmer circuit.

6. Protector diode

(A) Isolate the protector diode assembly from the circuit by disconnecting its leads.
(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the protector diode terminals.
Reverse the meter leads and again observe the resistance reading.
A normal protector diode's resistance will be infinite in both directions.
It is faulty if it shows continuity in one or both directions.



7. Temp sensor (Thermal protector)

A temp sensor is mounted on exhaust guide. Its purpose is to automatically shut off the oven in case the cavity overheats for any reason.
The thermal protector will operate at 257°F (125°C).
The device is connected to the DPC on touch control models.
When the thermal protector exceeds its temperature it will turn off the power to oven cavity and display wil go to reset mode.
The cooking program can be reset after cool-down.
THERMISTOR RESISTANCE VALUE
30K-120K at 10°C-30°C (50°F-86°F)

MEASUREMENTS AND ADJUSTMENTS

1. Adjustment of the safety switch B (Right and Left side)

(A) Switch operation

When the door is slightly opened, the safety switch B opens the main circuit.

The movement of the door from the closed position to the operation position (shown as ℓ) of the switch when it opens the main circuit, must maintain within following tolerances.

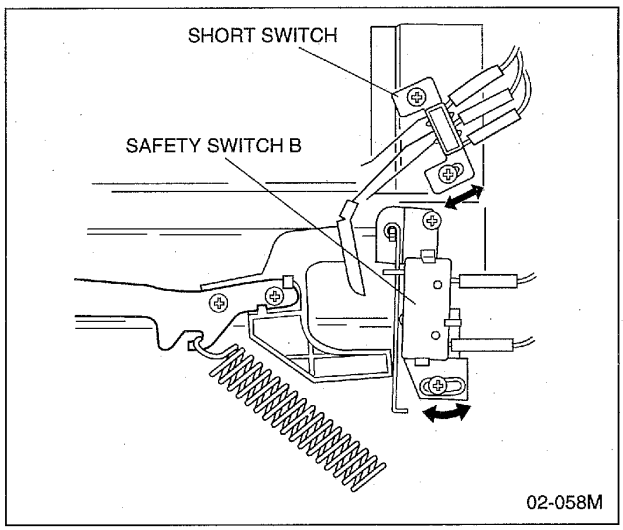
SAFETY SWITCH B (ℓ) = 3 mm ~ 5 mm

(When safety switch B opens the main circuit)

Note: Make sure that safety switch A turns off prior to the safety switch B when the door is gradually opened.

(B) How to adjust safety switch B

Loosen 2 screws which secure the safety switch B bracket to the bracket of the oven assembly and then adjust the safety switch B bracket by moving it to either direction as shown in **figure**.



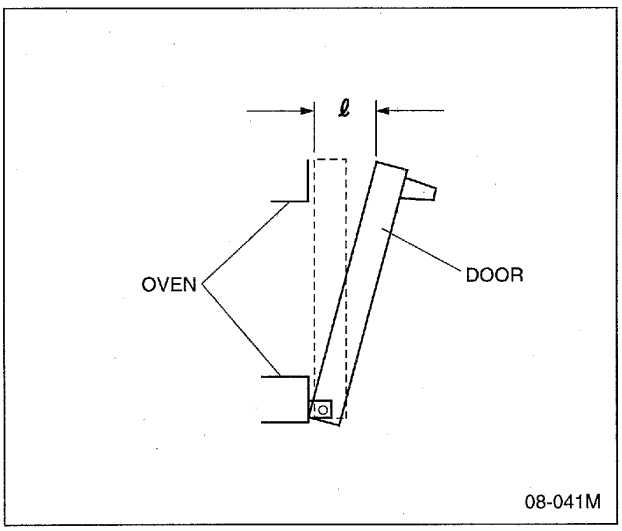
2. Adjustment of the Short Switch (Right and Left side)

(A) When the door is slightly opened, the Short Switch opens the main circuit and closes the contacts for short circuit.

The movement of door from its closed position to open position at which the Short Switch contacts open the main circuit (shown as ℓ) must maintain within 8 mm ~ 11 mm and at which the switch contacts close the short circuit should be 20 mm ~ 35 mm.

(B) How to adjust

Loosen the 2 screws holding the short switch to the short switch bracket, and then adjust the safety switch A by moving it to either direction as shown in **figure**.



3. Adjustment of the safety switch A (Door switch) (Right and Left side)

(A) Switch operation

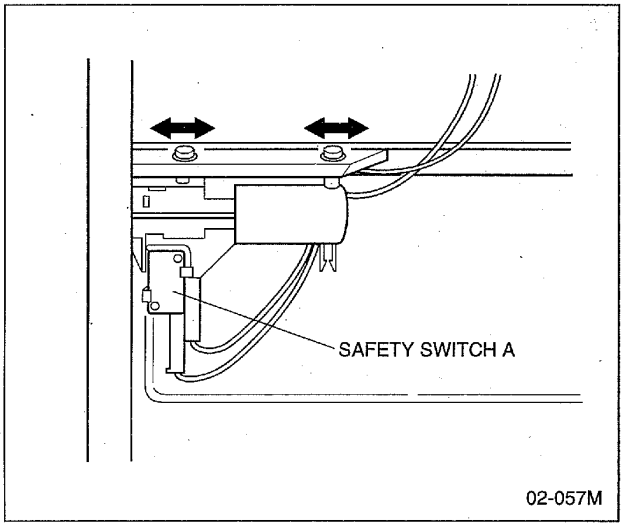
When the door is slightly opened, the contacts of safety switch A opened to give digital programmer circuit the information that the door is opend. The allowable movement of the door from the closed position to the operating position (shown as ℓ) of the switch when it opens the circuit, is specified as follows;

SAFETY SWITCH A (ℓ) = 1 mm ~ 3 mm
(When safety switch A opens the circuit)

Note: Make sure that safety switch A turn off prior to the safety switch B when the door is gradually opened.

(B) How to adjust safety switch A

Loosen 2 screws which secure the safety switch A bracket to the bracket of the oven assembly and then adjust the safety switch A bracket by moving it to either direction as shown in **figure**.



02-057M

4. Measurement of microwave output

The output power of the magnetron can be determined by performing IEC standard test procedures. However, it is possible to test the magnetron by following procedure outlined below.

Necessary equipement:

* 1 litre beaker
* Glass thermometer
* Wrist watch or stopwatch

NOTE: Check the line voltage under load to ensure it meets specifications. Low voltage condition will cause a reduction in magnetron output. Temperature readings and heating time, should be as accurate as possible.

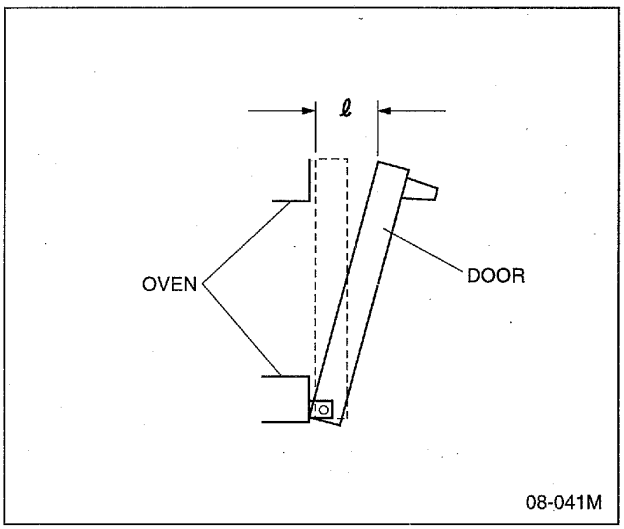
Output power performance test procedure.

(A) Fill the beaker with exactly one litre of tap water.
Stir the water using the thermometer and note the temperatrue.
(Record as T1)

(B) Place the beaker in the center of cook plate.
Set the oven for High power and heat for exactly one minute.

(C) After completion of the heating cycle, stir the water again with the thermometer and note the temperatute.
(Record as T2)

The normal temperature rise (T2-T1) at High power position (■) for each models is as shown in following table.



08-041M

Model	Temperature Rise (1 ℓ - 1 Min.)
NE-2740	Min. 22C°
NE-1880	Min. 16C°
NE-1580	Min. 13C°
NE-1540	Min. 13C°

TROUBLESHOOTING GUIDE

CAUTION

1. Check grounding before checking for trouble.
2. Be cafeful of the high voltage circuit.
3. Discharge high voltage capacitor.
4. When checking the continuity of the switches or the high voltage transformer, disconnect one lead wire from these parts and then check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.
   When disconnecting a plastic connector from a terminal, you must hold the plastic connector instead of the lead wire and then disconnect it, otherwise lead wire may be open or the connector cannot be removed.
5. Be sure to ground any static electric charge built up in your body, before handling the D.P.C.
6. A 230-240V AC is present at the shaded area ▩ of the power supply circuit board (Terminals of power relays and primary circuit of low voltage transformer). When troubleshooting, be cautious of possible electrical shock hazard.

First of all operate the microwave oven following the correct operating procedures described on pages 3 of this service manual in order to find the exact cause of any trouble.

NOTE: If the unit shows faulty symptom as shown below, check the parts listed in possible cause column depending on failure indication e.g. F81, F82 in the display.

[TROUBLE] Oven does not operate at all or oven does not start cooking. NE-2740

DISPLAY	CONDITIONS	POSSIBLE CAUSE	TIMING OF FAILURE INDICATION
F33	Open temperature sensor (exhaust)	1.Temperature sensor failure 2.Digital programmer circuit failure 3.Loose connector CN5	It is appeared when failure occured.
F34	Short temperature sensor (exhaust)	1.Temperature sensor failure 2.Digital programmer circuit failure	It is appeared when failure occured.
F44		1.Shorted power select switch 2.Shorted membrane switch	It is appeared 2 minutes after failure occured.
F01 (With continuous beep sounds)	Exhaust temperature exceeds 120°C	1.Burning food in the oven due to over cook	It is appeared when exhaust temperature exceeds above 120°C
F03	Input voltage exceed + 12.5%	1.Increase in power source voltage	It is appeared when the unit is plugged in. Note that it returns normal operation mode by tapping the RESET pad (▽).
F04	Input voltage is less than – 12.5%	1.Decrease in power source voltage	It is appeared when the unit is plugged in. Note that it returns normal operation mode by tapping the RESET pad (▽).
F05	Memory failure	1.Digital programmer circuit failure	
No display	1.25A fuse blown	1.Switch failure (short switch) 2.Low-Voltage transformer failure	
No display	1.25A fuse is OK	1.Thermal cutout failure 2.Low voltage transformer failure 3.Digital programmer circuit failure	
F81	No voltage supply to high voltage trans. (lower/left)	1.Relay failure RY-3 (A) 2.Loose connector CN256, CN257 3.Digital programmer circuit failure	It is appeared when failure occured.
F82	No voltage supply to high voltage trans. (lower/right)	1.Relay failure RY-5 (B) 2.Loose connector CN258, CN259 3.Digital programmer circuit failure	It is appeared when failure occured.

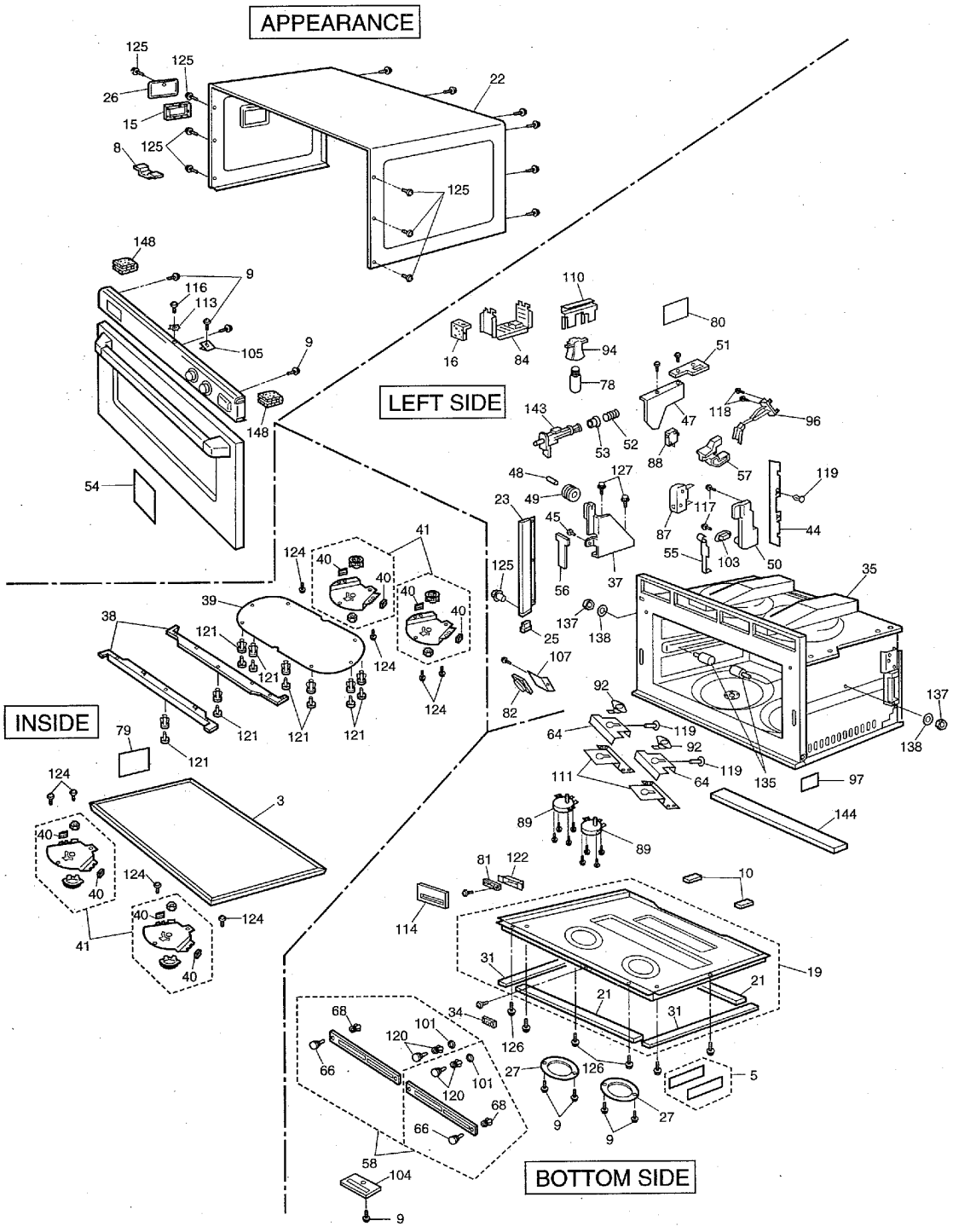
DISPLAY	CONDITIONS	POSSIBLE CAUSE	TIMING OF FAILURE INDICATION
F83	No voltage supply to high voltage trans. (upper/left)	1.Relay failure RY-7 (C) Loose connector CN260, CN261 2.Digital programmer circuit failure	It is appeared when failure occured.
F84	No voltage supply to high voltage trans. (upper/right)	1.Relay failure RY-9 (D) Loose connector CN262, CN263 2.Digital programmer circuit failure	It is appeared when failure occured.
F86	Shorted contacts of RY-3	1.Relay failure RY-3 (A) 2.Digital programmer circuit failure	It is appeared when failure occured.
F87	Shorted contacts of RY-5	1.Relay failure RY-5 (B) 2.Digital programmer circuit failure	It is appeared when failure occured.
F88	Shorted contacts of RY-7	1.Relay failure RY-7 (C) 2.Digital programmer circuit failure	It is appeared when failure occured.
F89	Shorted contacts of RY-9	1.Relay failure RY-9 (D) 2.Digital programmer circuit failure	It is appeared when failure occured.

[TROUBLE] Oven does not operate at all or oven does not start cooking. NE-1580/1540/1880

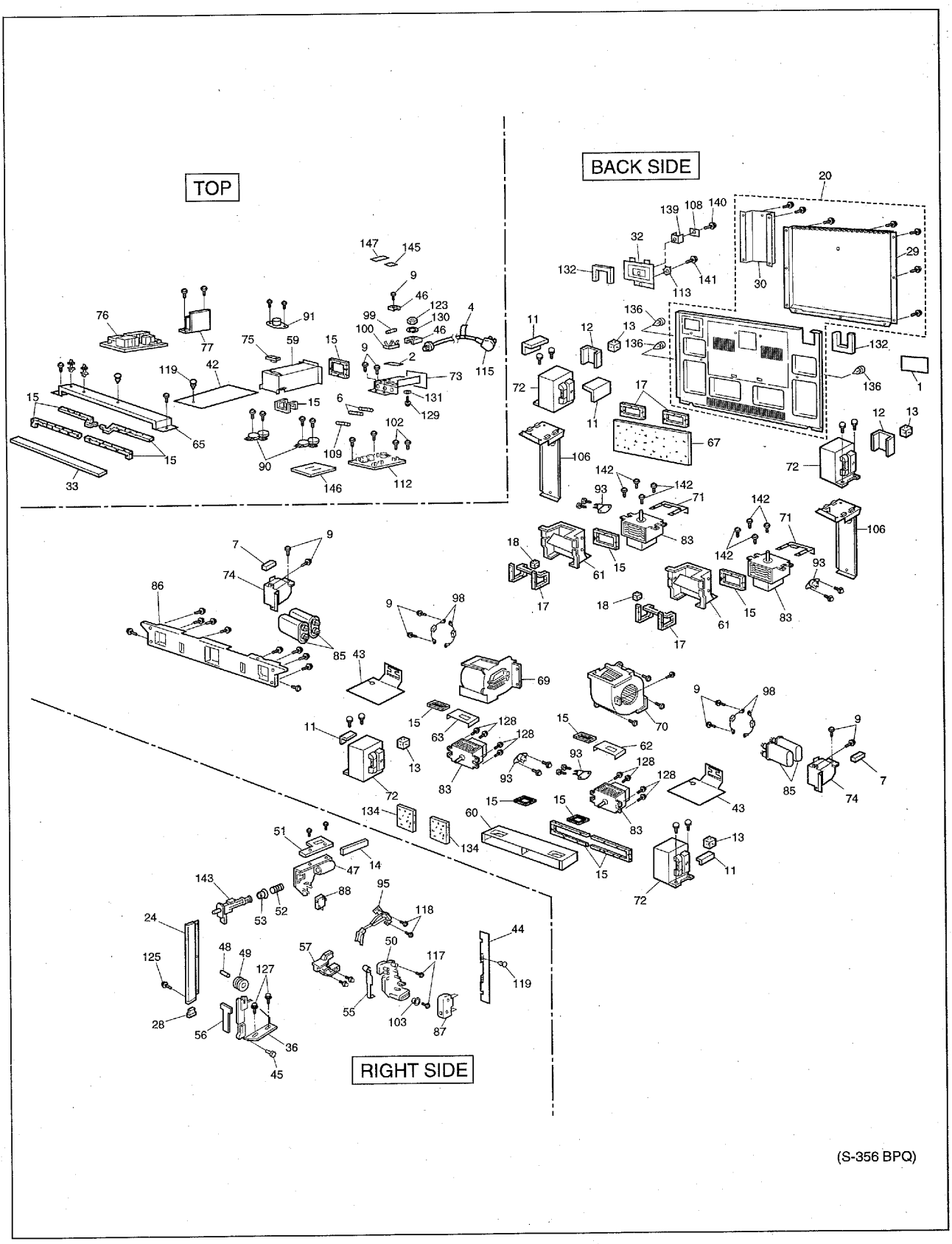
DISPLAY	CONDITIONS	POSSIBLE CAUSE	TIMING OF FAILURE INDICATION
F33	Open temperature sensor (exhaust)	1.Temperature sensor failure 2.Digital programmer circuit failure 3.Loose connector CN5	It is appeared when failure occured.
F34	Short temperature sensor (exhaust)	1.Temperature sensor failure 2.Digital programmer circuit failure	It is appeared when failure occured.
F44		1.Shorted power select switch 2.Shorted membrane switch	It is appeared 2 minutes after failure occured.
F01 (With continuous beep sounds)	Exhaust temperature exceeds 120°C	1.Burning food in the oven due to over cook	It is appeared when exhaust temperature exceeds above 120°C
F03	Input voltage exceed + 12.5%	1.Increase in power source voltage	It is appeared when the unit is plugged in. Note that it returns normal operation mode by tapping the RESET pad (▽).
F04	Input voltage is less than – 12.5%	1.Decrease in power source voltage	It is appeared when the unit is plugged in. Note that it returns normal operation mode by tapping the RESET pad (▽).
F05	Memory failure	1.Digital programmer circuit failure	
No display	1.25A fuse blown	1.Switch failure (short switch) 2.Low-Voltage transformer failure	
No display	1.25A fuse is OK	1.Thermal cutout failure 2.Low voltage transformer failure 3.Digital programmer circuit failure	
F81	No voltage supply to high voltage transformer (left)	1.Relay failure RY-3 (A) 2.Loose connector CN256, CN257 3.Digital programmer circuit failure	It is appeared when cooking is completed.
F84	No voltage supply to high voltage transformer (right)	1.Relay failure RY-9 (D) 2.Loose connector CN262, CN263 3.Digital programmer circuit failure	It is appeared when cooking is completed.
F86	Shorted contacts of RY-3	1.Relay failure RY-3 (A) 2.Digital programmer circuit failure	It is appeared when failure occured.
F89	Shorted contacts of RY-9	1.Relay failure RY-9 (D) 2.Digital programmer circuit failure	It is appeared when failure occured.

EXPLODED VIEW AND PARTS LIST

EXPLODED VIEW



(S-356 BPQ)


TOP
BACK SIDE
RIGHT SIDE
(S-356 BPQ)

PARTS LIST

NOTE : When ordering replacement part(s), please use part number(s) shown in this parts list.
Do not use description of the part.
: Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
1		A00064080BP	CAUTION LABEL	1	
2		ANE0033P10GN	FUSE LABEL	1	NE-1540,NE-1580,NE-1880
3		A010T3030GP	SHELF	1	
4		A02396000BP	CORD LABEL	1	NE-1540,NE-1580
4		ANE0239G90BN	CORD LABEL	1	NE-1880,NE-2740
5		A05243600BP	NAME PLATE (U)	1	NE-1540 (W/PROTECTING SHEET)
5		A05243610BP	NAME PLATE (U)	1	NE-1580 (W/PROTECTING SHEET)
5		A05243590BP	NAME PLATE (U)	1	NE-1880 (W/PROTECTING SHEET)
5		A05243560BP	NAME PLATE (U)	1	NE-2740 (W/PROTECTING SHEET)
6	⚠	A62304210BP	FUSE	2	NE-1540,NE-1580,NE-1880 10A
6	⚠	ANE6230P10GN	FUSE	2	NE-2740 16A
7		ANE0911000DC	CUSHION RUBBER B	2	NE-2740
8		ANE0911000DF	CUSHION RUBBER B	1	
9		XYD4+EE12F	SCREW	19	NE-1540,NE-1580,NE-1880 4X12 (FOR TERMINAL PLATE, ANTENNA MOTOR COVER, SWITCH HOLDER, DIODE,CAPACITOR BRACKET, ESCUTCHEON BASE, EARTH(D.P.C.,CORD))
9		XYD4+EE12F	SCREW	18	NE-2740 4X12 (FOR TERMINAL PLATE, ANTENNA MOTOR COVER, SWITCH HOLDER, DIODE, CAPACITOR BRACKET, ESCUTCHEON BASE, EARTH(D.P.C.))
10		ANE0911000EG	CUSHION RUBBER B	2	
11		ANE0911000EH	CUSHION RUBBER B	2	NE-1540,NE-1580,NE-1880
11		ANE0911000EH	CUSHION RUBBER B	4	NE-2740
12		ANE0911000MG	CUSHION RUBBER B	2	NE-2740
13		ANE0917000EB	CUSHION RUBBER B	2	
14		ANE0921000CG	CUSHION RUBBER C	1	
15		ANE000Z000AA	CUSHION RUBBER C	15	
16		ANE0922000JE	CUSHION RUBBER C	1	
17		ANE000Z000AB	CUSHION RUBBER C	2	
18		ANE0924000AB	CUSHION RUBBER C	2	
19		A100A3560BP	BASE	1	(NOTE 1)
20		A100Q3560GP	BACK PANEL	1	
21		A10083030GP	RUBBER FOOT	2	
22		A10093030GP	CABINET BODY (U)	1	
23		A10133030GP	LEFT SIDE SASH	1	
24		A10143030GP	RIGHT SIDE SASH	1	
25		A10203030GP	SASH RUBBER B	1	LEFT
26		A10263030GP	LAMP COVER	1	
27		A10283030GP	ANTENNA MOTOR COVER	2	
28		A10503030GP	SASH RUBBER A	1	RIGHT
29		A10583560GP	BACK PANEL COVER A	1	
30		A10593560GP	BACK PANEL COVER B	1	
31		A10943030GP	RUBBER FOOT B	2	
32		A101H3170GP	BACK PANEL COVER C	1	
33		A11743060GP	SPACER	1	
34		A16163030GP	PANEL B (U)	1	NE-1540,NE-2740
34		A16163060GP	PANEL B (U)	1	NE-1580,NE-1880
35		A200A3560GP	OVEN	1	
36		A200P3030GP	ROLLER BRACKET A	1	RIGHT
37		A200Q3030GP	ROLLER BRACKET B	1	LEFT
38		A20103030GP	CEILING PLATE B	2	
39		A20113030GP	CEILING PLATE	1	

(S-356 BPQ)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
40		A20193030GP	ANTENNA STOPPER	8	
41		A202R3560GP	ANTENNA (U)	4	
42		A22173030GP	BARRIER SHEET A	1	
43		A22183030GP	BARRIER SHEET B	2	NE-2740
44		A22193030GP	BARRIER SHEET C	1	NE-1540,NE-1580,NE-1880
44		A22193030GP	BARRIER SHEET C	2	NE-2740
45		ANE3008P00RN	HINGE PIN	2	
46		XWNANE53GV	SPACER	1	(FOR CORD EARTH)
47		A30203030GP	DOOR HOOK A	2	
48		ANE3033-560	DOOR ROLLER PIN	2	
49		ANE3034-560	DOOR GUIDE ROLLER	2	
50		A31123050GP	DOOR HOOK B	2	
51		A31363030GP	HOOK SPACER A	2	
52		ANE3155-610	SPRING	2	
53		ANE3157-610	PACKING RUBBER	2	
54		A31863600GP	DOOR PANEL	1	NE-1540
54		A31863610BP	DOOR PANEL	1	NE-1580
54		A31863590GP	DOOR PANEL	1	NE-1880
54		A31863560GP	DOOR PANEL	1	NE-2740
55		A32493030GP	DOOR SWITCH LEVER	2	
56		A32523030GP	DOOR ARM SPACER	2	
57		A33373030GP	DOOR ARM LEVER	2	
58		A400B3040AP	AIR FILTER FLAME (U)	2	
59		A400C3040AP	EXHAUST GUIDE B	1	
60		A402N3030GP	EXHAUST GUIDE A	1	
61		A40253030GP	AIR GUIDE A	2	
62		A40263030GP	AIR GUIDE B	1	
63		A40313030GP	AIR GUIDE C	1	
64		A40423040AP	AIR GUIDE F	2	
65		A40473560GP	AIR GUIDE E	1	
66		A40923030GP	FILTER HANDLE	2	
67		A40963030GP	INSULATION SHEET	1	
68		ANE42408U0AP	FILTER HANDLE B	2	
69		A490W3050GP	FAN MOTOR A	1	NE-1540,NE-1580,NE-1880 48W
69		A490W3030GP	FAN MOTOR A	1	NE-2740 55W
70		A490Y3050GP	FAN MOTOR B	1	NE-1540,NE-1580,NE-1880 48W
70		A490Y3030GP	FAN MOTOR B	1	NE-2740 55W
71		ANE50328U0AP	MAGNETRON BRACKET	2	
72	⚠	A600B3600BP	H.V.TRANSFORMER	2	NE-1540,NE-1580 1.8KVA
72	⚠	A600B3580GP	H.V.TRANSFORMER	2	NE-1880 1.8KVA
72	⚠	A600B3560BP	H.V.TRANSFORMER	4	NE-2740 1.5KVA
73		A600E3030GP	TERMINAL PLATE	1	NE-1540,NE-1580,NE-1880
73		A600E3030BP	TERMINAL PLATE	1	NE-2740
74		A600S3030GP	CAPACITOR BRACKET	2	
75		A601L4000AP	TEMP SENSOR	1	
76		A603M3580GP	PC BOARD B (U)	1	NE-1880
76		A603M3600GP	PC BOARD B (U)	1	NE-1580,NE-1540
76		A603M3560BP	PC BOARD B (U)	1	NE-2740
77	⚠	A603Y3560GP	L.V.TRANSFORMER (U)	1	
78		ANE6030Q50GN	INCANDESCENT LAMP	1	240V/25W
79		A60403030GP	OVEN LAMP SHEET	1	
80		A60403040AP	OVEN LAMP SHEET	1	
81		A605Q3030GP	PUSH SWITCH	1	
82		A605S3030GP	PC BOARD H (U)	1	
83	⚠	2M210-M1EL	MAGNETRON	4	
84		A60733030GP	OVEN LAMP COVER	1	
85	⚠	A60903070BP	H.V.CAPACITOR	4	NE-1540,NE-1580 0.53MF,AC2000V
85	⚠	A60903050BP	H.V.CAPACITOR	4	NE-1880 0.67MF,AC2000V
85	⚠	A63903310GP	H.V.CAPACITOR	4	NE-2740 0.82MF,AC2300V
86		A61073030GP	PARTS BRACKET B	1	
87	⚠	ANE6142-F60	MICROSWITCH	2	V-15G-3C26 SECONDARY INTERLOCK SWITCH
88	⚠	ANE61424L0AG	MICROSWITCH	2	V-16G-3C26 PRIMARY INTERLOCK SWITCH

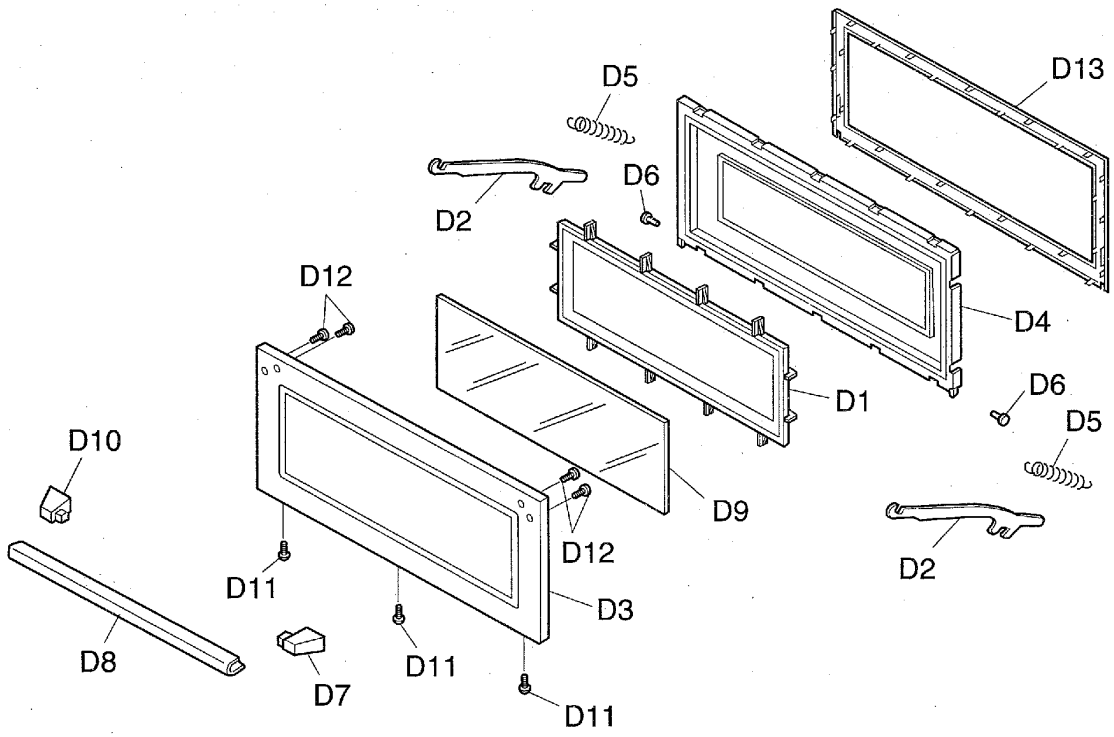
Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
89	⚠	A6144-3280	ANTENNA MOTOR	2	LOWER (2.5W)
90	⚠	A61446030AP	ANTENNA MOTOR	2	UPPER (2.5W)
91	⚠	A61454000AP	THERMAL CUTOUT	1	FOR OVEN
92	⚠	A61454050AP	THERMAL CUTOUT	2	FOR ANTENNA MOTOR
93	⚠	A61454210AP	THERMAL CUTOUT	4	FOR MAGNETRON
94	⚠	ANE61522Q0BP	SOCKET	1	
95	⚠	A61583030GP	DOOR SWITCH A	1	RIGHT (MONITOR SWITCH)
96	⚠	A61583050GP	DOOR SWITCH B	1	LEFT (MONITOR SWITCH)
97		A61703030GP	INSULATION SHEET C	1	
98		A62024000AP	DIODE,SI	4	
99	⚠	A62303580GP	FUSE	1	NE-1540,NE-1580,NE-1880 20A
100		A62314000AP	FUSE HOLDER	1	NE-1540,NE-1580,NE-1880
101		A62383030GP	SPACER	2	
102		XYN5+C8BN	SCREW	2	NE-2740 5X8 (FOR NOISE FILTER)
103		A64083040AP	WASHER	2	
104		A65313030GP	SWITCH HOLDER	1	
105		ANE64086Q0AP	WASHER	1	NE-1580,NE-1880
106		A65513030GP	H.V.T.MOUNTING	2	NE-2740
107		A65613030GP	BUZZER CASE	1	
108		A66623170GP	EARTH SPACER	1	
109	⚠	A65953170GP	FUSE B	1	1.25A
110		A66033030GP	OVEN LAMP BRACKET	1	
111		A66263040AP	THERMAL CUTOUT MOUNT	2	
112	⚠	A692Y3580GP	NOISE FILTER (U)	1	NE-1540,NE-1580,NE-1880
112	⚠	A692Y3560BP	NOISE FILTER (U)	1	NE-2740
113		XWC4BPN	WASHER	2	(FOR ESCUTCHEON BASE, BACK PANEL COVER C)
114		A83613030GP	SWITCH SPACER	1	
115	⚠	A910A3600BP	AC CORD W/PLUG (U)	1	NE-1540,NE-1580 230-240V
115	⚠	A910A3590BP	AC CORD W/OUT PLUG (U)	1	NE-1880 230-240V
115	⚠	A910A3560BP	AC CORD W/OUT PLUG (U)	1	NE-2740 230-240V
116		XTC4+10FC	SCREW	1	4X10 (FOR ESCUTCHEON BASE)
117		XYN4+F18S	SCREW	4	4X18 (FOR DOOR HOOK B)
118		XYN4+F12S	SCREW	4	4X12 (FOR DOOR SWITCH)
119		ANE9080-730	CLIP (YELLOW)	4	NE-1540,NE-1580,NE-1880
119		ANE9080-730	CLIP (YELLOW)	5	NE-2740
120		ANE90828U0AP	CLIP (BLACK)	2	
121		ANE9082930AP	CLIP	8	
122		A98363030GP	CASE	1	
123		XNG4EVS	NUT	1	NE-2740 (FOR CORD EARTH)
124		XST4+6VS	SCREW	8	4X6 (FOR ANTENNA)
125		XTC4+10BC	SCREW	9	4X10 (FOR CABINET BODY, LAMP COVER, SASH)
126		XTC4+12BK	SCREW (BLACK)	3	4X12 (FOR BASE)
127		XTEANE5+10B	SCREW	4	5X10 (FOR ROLLER BRACKET)
128		XTWANE4+10RU	SCREW	8	4X10 (FOR MAGNETRON:LOWER)
129		XTWA4+12CFN	SCREW	1	NE-2740 4X12 (FOR CORD EARTH)
130		XWA4BV	WASHER	1	NE-2740 (FOR CORD EARTH)
131		XWA5BV	WASHER	1	NE-2740 (FOR CORD EARTH)
132		ANE0961000ZL	CUSHION RUBBER D	2	
133		ANE0963000AR	CUSHION RUBBER D	2	
134		A10493030GP	CUSHION RUBBER	2	
135		A18593560GP	SHELF SUPPORT	2	
136		A91433040AP	CLIP A	3	NE-1540,NE-1580,NE-1880
136		A91433040AP	CLIP A	1	NE-2740
137		XNW5EFN	NUT	2	FOR SHELF SUPPORT
138		XWG5BV	WASHER	2	FOR SHELF SUPPORT
139		XWNANE65GV	SPACER	1	FOR BACK PANEL COVER C
140		XYE6+F20F	SCREW	1	6X20 (FOR BACK PANEL COVER C)
141		XTT4+8E	SCREW	1	4X8 (FOR BACK PANEL COVER C)
142		XYEANE5+C16T	SCREW	8	5X16 (FOR MAGNETRON:UPPER)
143		A30183030GP	DOOR KEY A	2	
144		A80163060GP	CUSHION SPACER	1	

(S-356 BPQ)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
145		A02433580GP	TERMINAL LABEL	1	NE-1540,NE-1580,NE-1880 ("L")
146		A608E3560GP	P.C.BOARD Q	1	NE-2740
147		ANE81508V0V	TERMINAL LABEL B	1	
148		ANE0962000ZE	CUSHION RUBBER D	2	

NOTE 1 : Please order name plate together.

DOOR ASSEMBLY

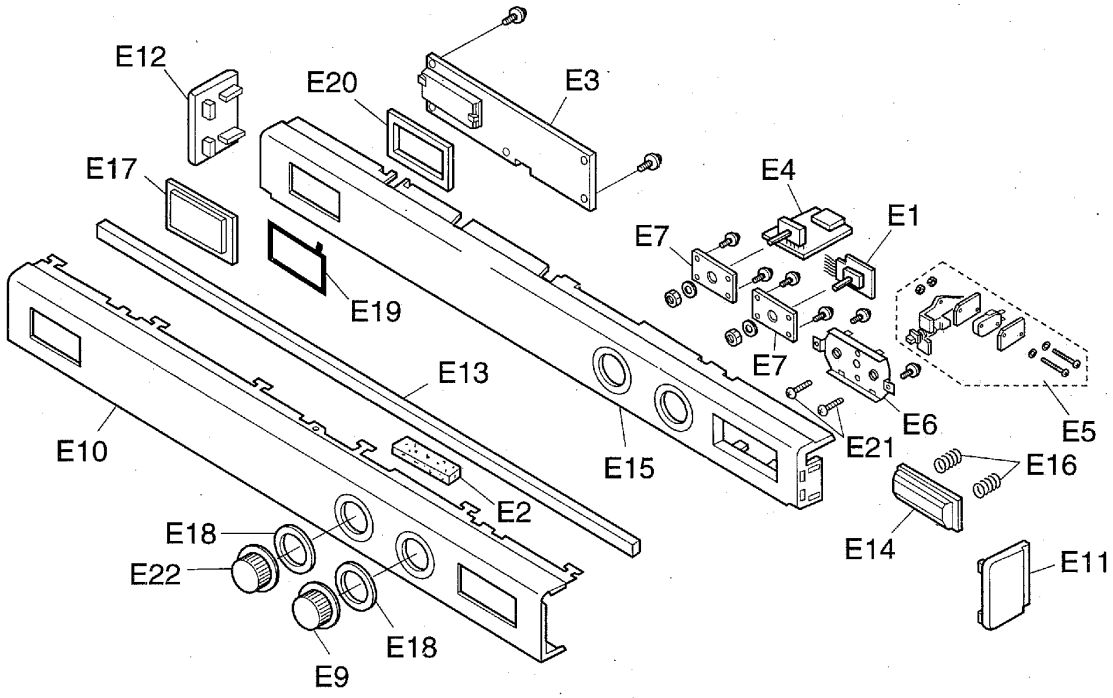


(S-356 BPQ)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
D1		A30033030GP	DOOR FRAME	1	
D2		A30043030GP	DOOR ARM	2	
D3		A301A3030GP	DOOR A	1	
D4		A302K3030GP	DOOR E (U)	1	
D5		ANE3009P00RN	DOOR SPRING	2	
D6		ANE3036P00RN	DOOR ARM PIN	2	
D7		A30703030GP	HANDLE PEICE A	1	
D8		A31343030GP	HANDLE PEICE B	1	
D9		A31463030GP	DOOR SCREEN B	1	
D10		A31473030GP	HANDLE PEICE C	1	
D11		XTC4+10BC	SCREW	3	4X10
D12		XYEANE4+C16T	SCREW	4	4X16
D13		A30853030GP	DOOR C	1	

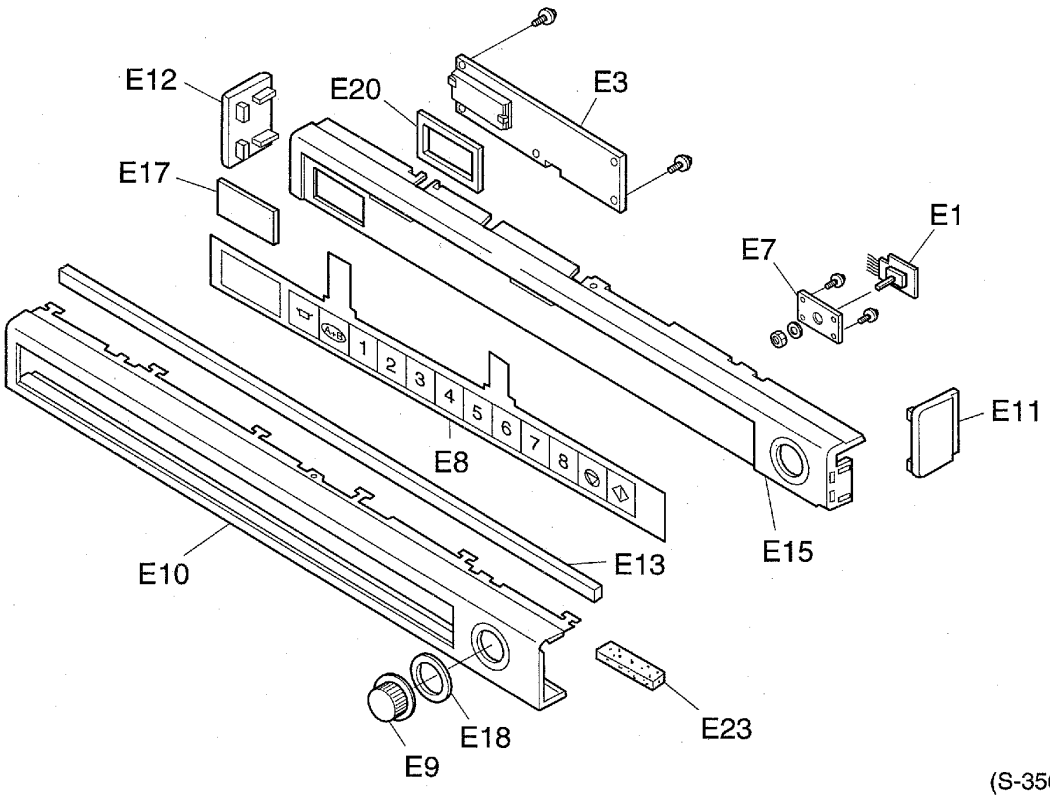
ESCUTCHEON BASE ASSEMBLY

NE-1540,NE-2740



(S-356 BPQ)

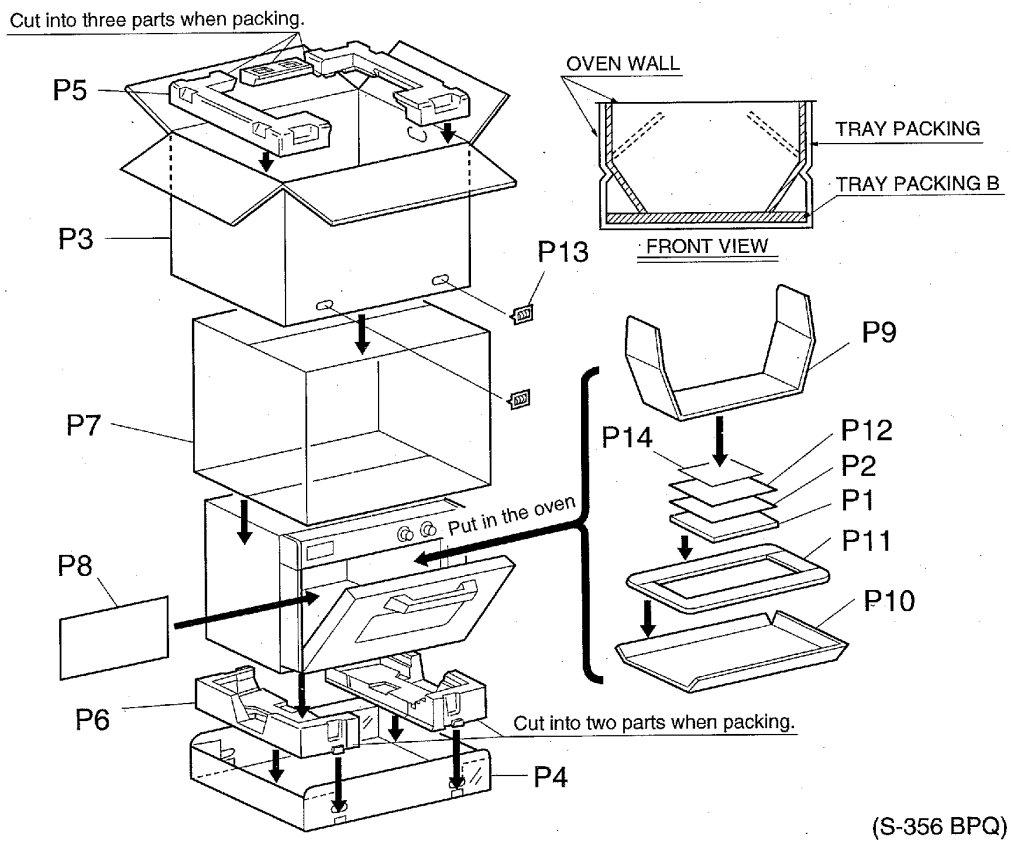
NE-1580,NE-1880



(S-356 BPQ)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
E1		A03613560GP	TIMER	1	
E2		ANE1062-8U0	CUSHION RUBBER B	1	NE-1540,NE-2740
E3	⚠	A603L3560GP	D.P.CIRCUIT (U)	1	NE-1540,NE-2740 RTL (W/COMPONENT)
E3	⚠	A603L3590GP	D.P.CIRCUIT (U)	1	NE-1580,NE-1880 RTL (W/COMPONENT)
E4		A608C3560GP	POWER SELECT SWITCH	1	NE-1540,NE-2740
E5		ANE610EP00RN	START SWITCH	1	NE-1540,NE-2740
E6		A61623030GP	START SWITCH BRACKET	1	NE-1540,NE-2740
E7		A63433030GP	TIMER BRACKET	2	NE-1540,NE-2740
E7		A63433030GP	TIMER BRACKET	1	NE-1580,NE-1880
E8	⚠	A64793590GP	MEMBRANE SWITCH	1	NE-1580,NE-1880
E9		A800D3060GP	TIMER KNOB	1	
E10		A80013030GP	ESCUTCHEON A	1	NE-1540,NE-2740
E10		A80013060GP	ESCUTCHEON A	1	NE-1580,NE-1880
E11		A80023030GP	ESCUTCHEON B	1	
E12		A80063030GP	ESCUTCHEON D	1	
E13		A80163030GP	ESCUTCHEON SPACER	1	
E14		ANE8024P00RN	COOK BUTTON	1	NE-1540,NE-2740
E15		A80343030GP	ESCUTCHEON BASE	1	NE-1540,NE-2740
E15		A80343060GP	ESCUTCHEON BASE	1	NE-1580,NE-1880
E16		ANE8037P00RN	COOK BUTTON SPRING	2	NE-1540,NE-2740
E17		A81263030GP	SMOKE PANEL	1	NE-1540,NE-2740
E17		A81263060GP	SMOKE PANEL	1	NE-1580,NE-1880
E18		A82873030GP	SPACER A	2	NE-1540,NE-2740
E18		A82873030GP	SPACER A	1	NE-1580,NE-1880
E19		A83373560GP	ESCUTCHEON SHEET	1	NE-1540,NE-2740
E20		A83423030GP	CUSHION RUBBER B	1	NE-1540,NE-2740
E20		A83423060GP	CUSHION RUBBER B	1	NE-1580,NE-1880
E21		XYN4+C8S	SCREW	2	NE-1540,NE-2740 4X8
E22		A800D3030GP	TIMER KNOB	1	NE-1540,NE-2740
E23		ANE0911000AB	CUSHION RUBBER B	1	NE-1580,NE-1880

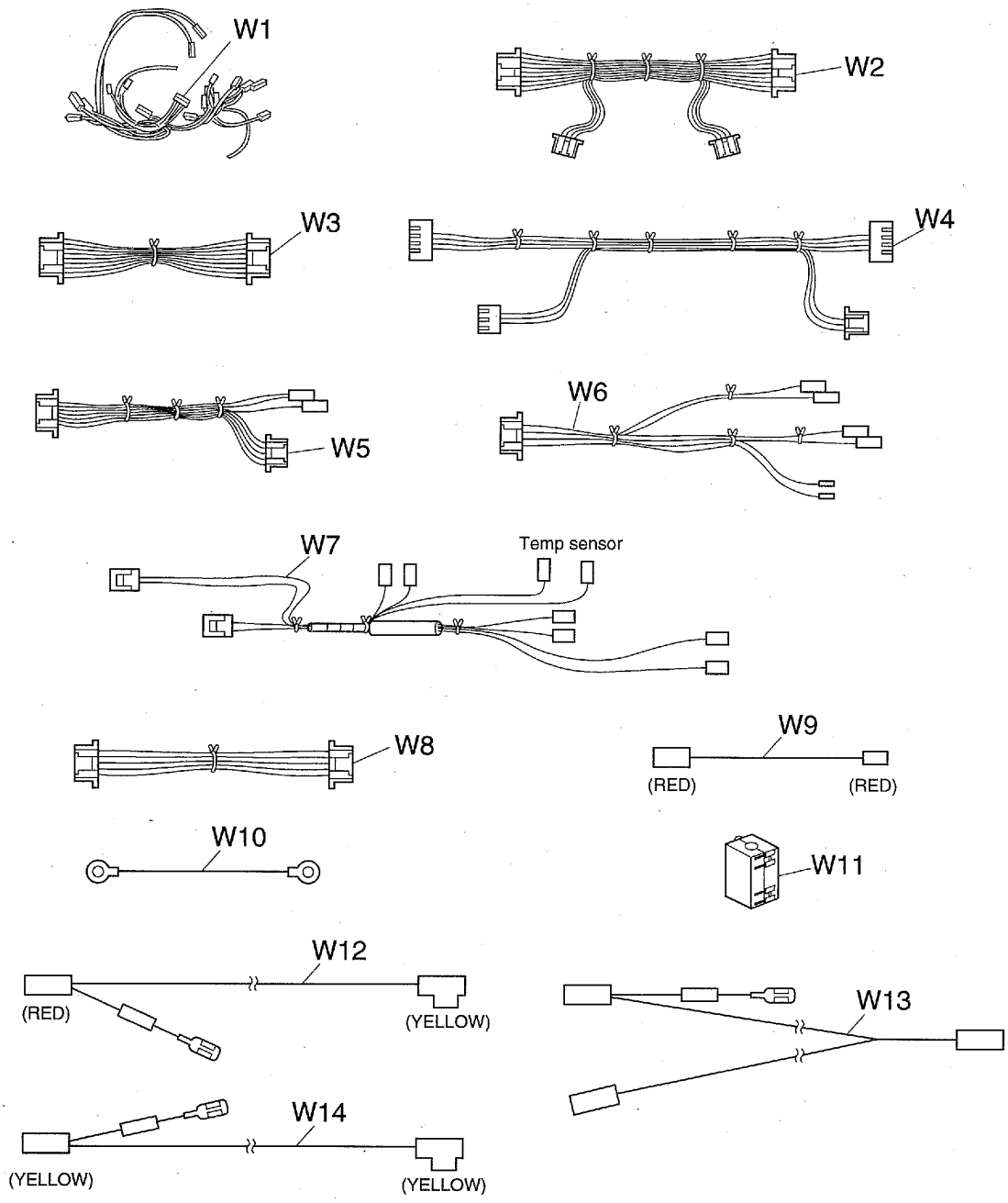
PACKING AND ACCESSORIES



(S-356 BPQ)

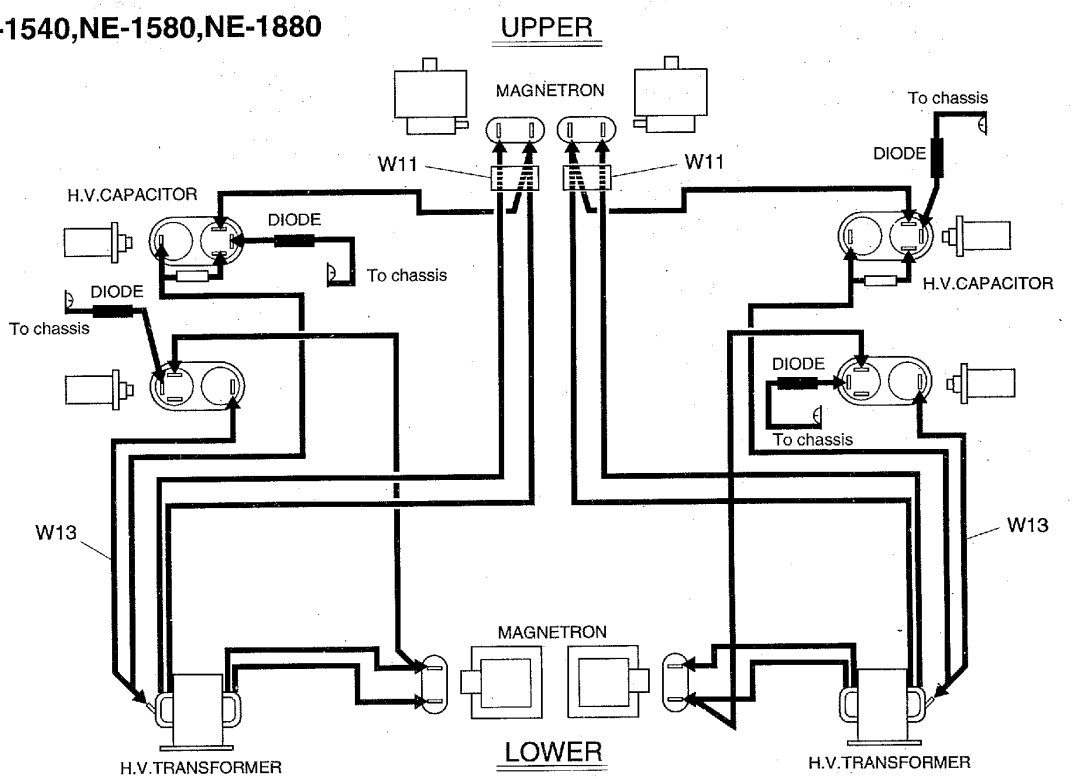
Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
P1		A00033560BP	INSTRUCTION BOOK	1	NE-1540,NE-2740
P1		A00033590BP	INSTRUCTION BOOK	1	NE-1580,NE-1880
P2		A00498U0BP	INSTRUCTION BOOK B	1	NE-1540,NE-1580
P3		A01023600BP	PACKING CASE,PAPER	1	NE-1540
P3		A01023610BP	PACKING CASE,PAPER	1	NE-1580
P3		A01023590BP	PACKING CASE,PAPER	1	NE-1880
P3		A01023560BP	PACKING CASE,PAPER	1	NE-2740
P4		A01033030GP	BOTTOM CASE	1	
P5		A01043030GP	UPPER FILLER	1	
P6		A01053030GP	LOWER FILLER	1	
P7		A01063040AP	VINYL COVER	1	
P8		A01073030GP	DOOR SHEET	1	
P9		A01083030GP	TRAY PACKING	1	
P10		A01173030GP	TRAY PACKING B	1	
P11		A012D3050GP	SHELF B	1	
P12		A04203590BP	OPERATING GUIDE	1	NE-1580,NE-1880
P13		HP-601W	FASTENER	4	
P14		A01723560BP	CAUTION LABEL	1	

WIRING MATERIAL



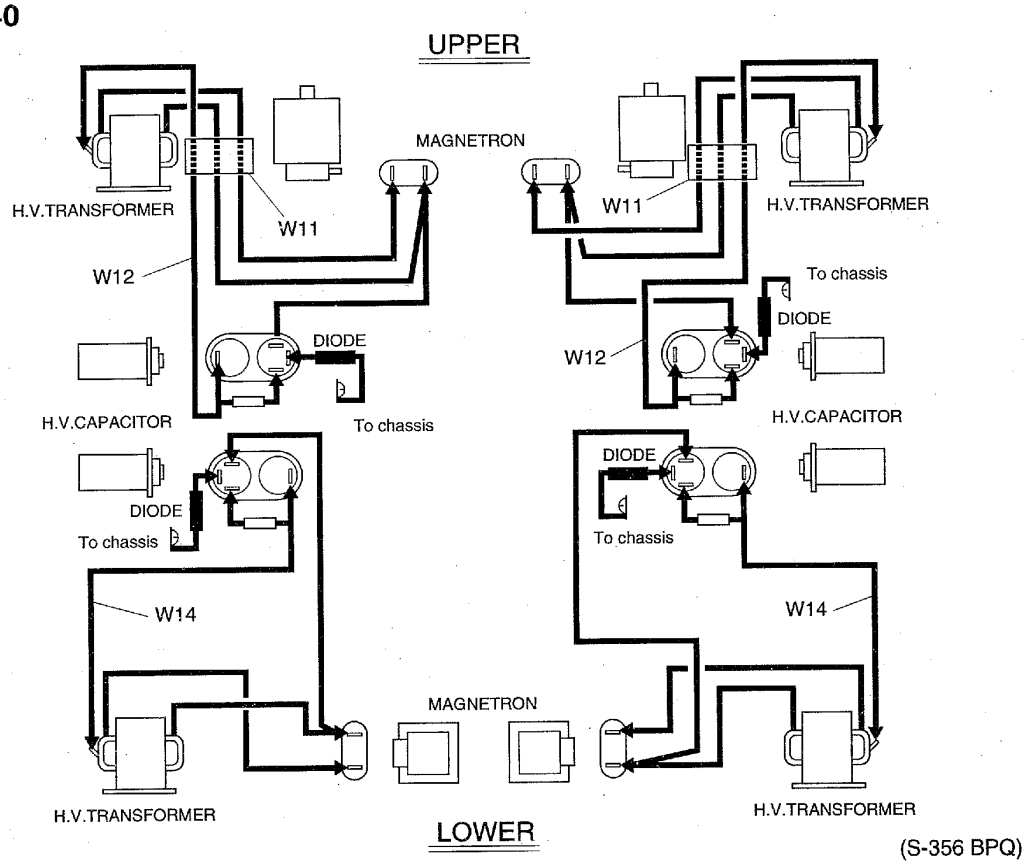
(S-356 BPQ)

NE-1540,NE-1580,NE-1880



(S-356 BPQ)

NE-2740



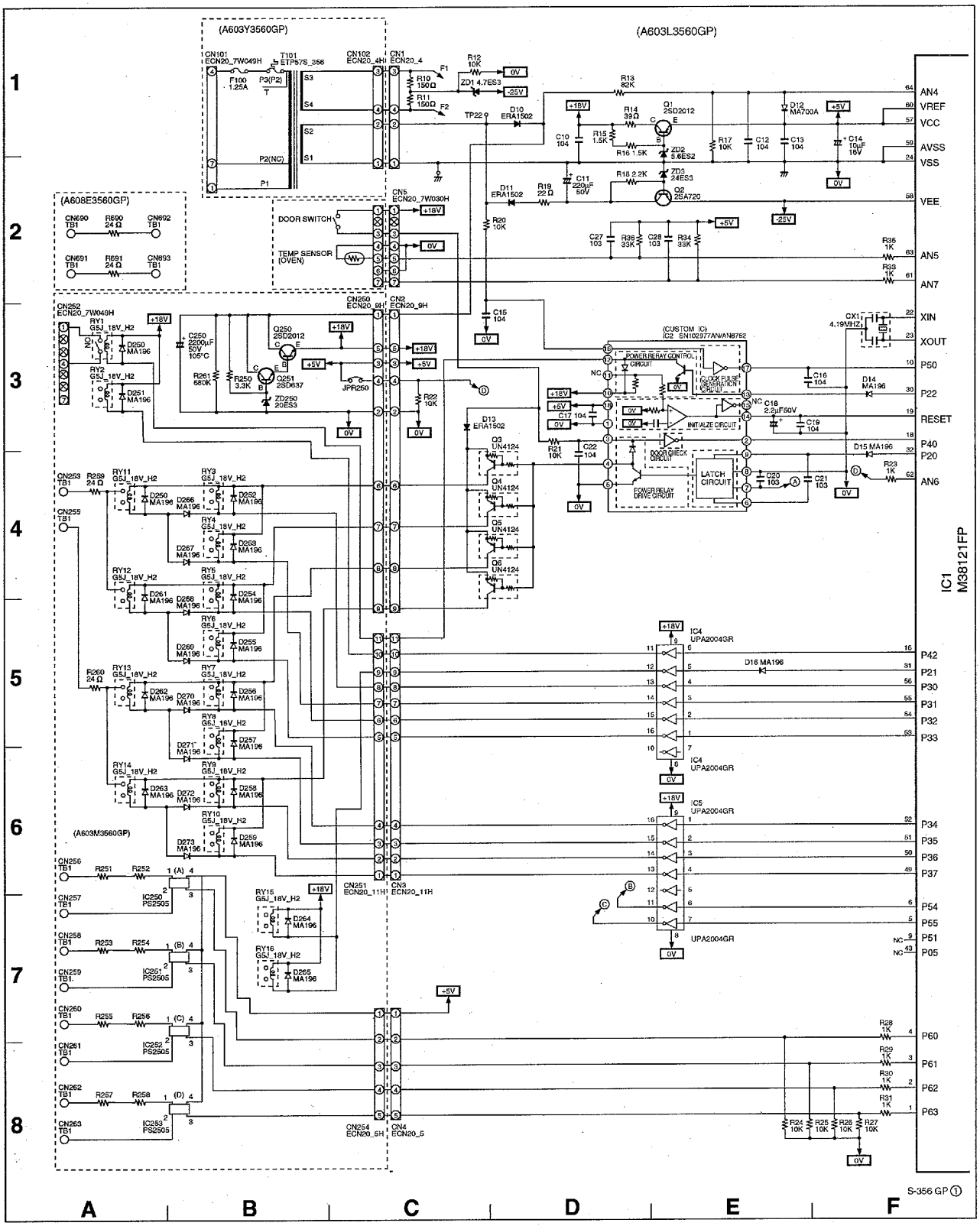
(S-356 BPQ)

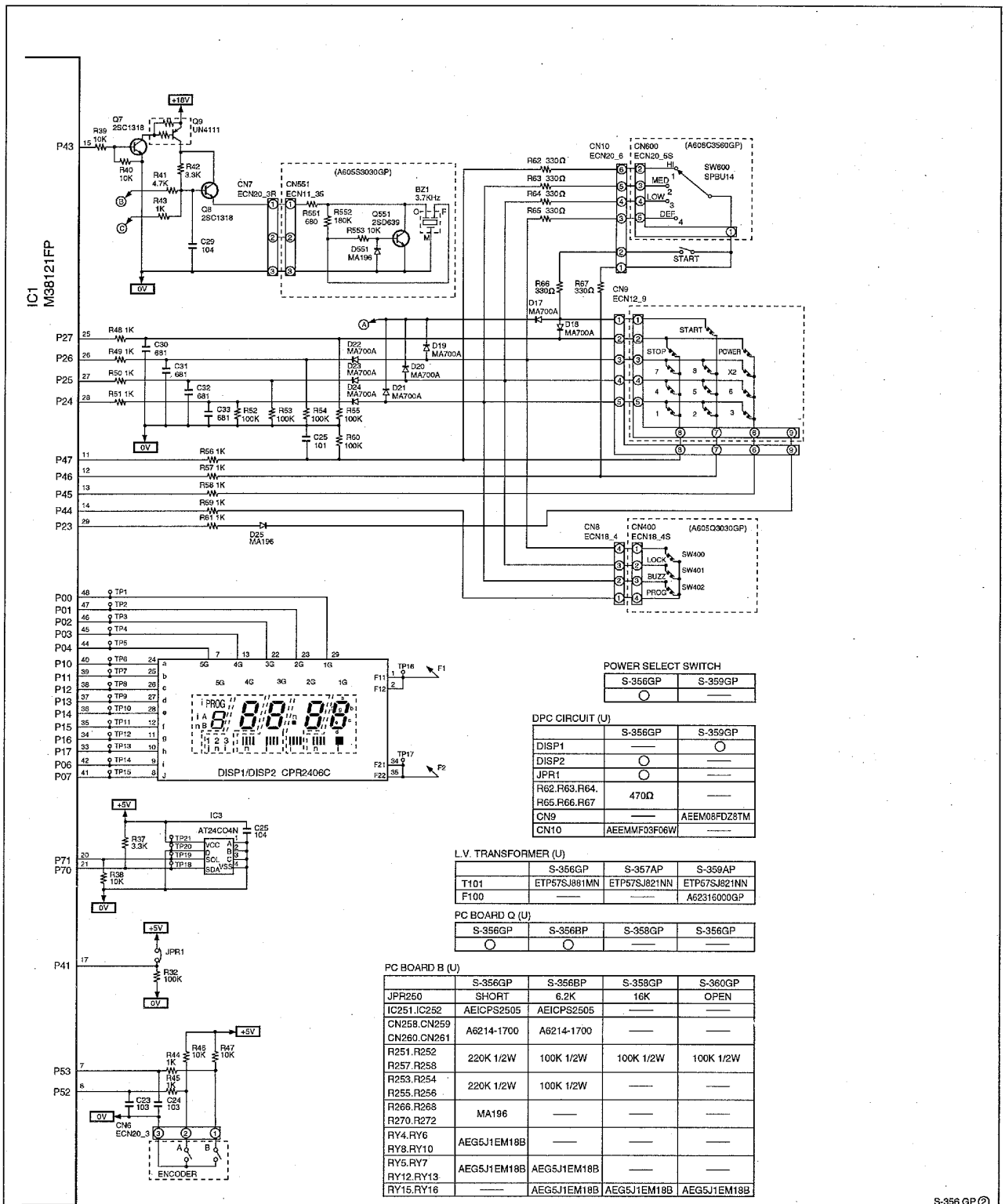
Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
W1		A030A3580GP	LEAD WIRE HARNESS	1	NE-1540,NE-1580,NE-1880
W1		A030A3560BP	LEAD WIRE HARNESS	1	NE-2740
W2		A03603560GP	LEAD WIRE	1	
W3		A03623560GP	LEAD WIRE	1	
W4		A03633560GP	LEAD WIRE	1	
W5		A03643560GP	LEAD WIRE	1	NE-1540,NE-2740
W6		A03653560GP	LEAD WIRE	1	
W7		A03693560GP	LEAD WIRE	1	
W8		A03703560GP	LEAD WIRE	1	
W9		A03723580GP	LEAD WIRE	1	NE-1540,NE-1580,NE-1880 (CONNECTOR COLOR:RED)
W10		A03813030GP	LEAD WIRE	2	NE-1540,NE-2740
W11		A50966520UP	FERRITE CORE	2	
W12		A606W3560GP	PROTECTOR DIODE B	2	NE-2740
W13		A606V3580GP	PROTECTOR DIODE	2	NE-1540,NE-1580,NE-1880
W14		A606V3560GP	PROTECTOR DIODE	2	NE-2740

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
REF NO. 76 P. C. BOARD B (U)					
	⚠	AEGHPUG3640	POWER RELAY	1	
		XYN3+F8S6	SCREW	1	3X8
		2SD2012	TRANSISTOR,SI	1	
		ERDS2TJ163T	CARBON FILM RESISTOR	1	NE-1540,NE-1880 16KΩ,1/4W,5%
C250		ECA1HHG222E	ELECTROLYTIC CAPACITOR,AL	1	2200MF/50V
CN250		AEEMMD1FF09W	CONNECTOR	1	9PIN
CN251		AEEMMD7FF11N	CONNECTOR	1	11PIN
CN252		AEEMMD04907W	CONNECTOR	1	7PIN
CN254		AEEMMD01F05W	CONNECTOR	1	5PIN
D250,251,252, 253,254,255, 256,257,258, 259,260,261, 262,263,264, 265,267,269, 271,273		MA196-(TA5)	DIODE,SI	20	
IC250,251, 252,253		AEICPS2505	IC	4	NE-2740
IC250,253		AEICPS2505	IC	2	NE-1540,NE-1580,NE-1880
JPR250		ERDS2TJ622T	CARBON FILM RESISTOR	1	NE-2740 6.2KΩ,1/4W,5%
Q251		2SD637-PQRS	TRANSISTOR,SI	1	
R250		ERDS2TJ332T	CARBON FILM RESISTOR	1	3.3KΩ,1/4W,5%
R251,252, 253,254, 255,256, 257,258		ERDS1TJ104T	CARBON FILM RESISTOR	8	NE-2740
R251,252,		ERDS1TJ104T	CARBON FILM RESISTOR	4	NE-1540,NE-1580,NE-1880 100KΩ,1/2W,5%
257,258					
R259,260		ERF15ZXJ240	RESISTOR	2	24Ω,15W,5%
R261		ERDS2TJ684T	CARBON FILM RESISTOR	1	680KΩ,1/4W,5%
RY1	⚠	AEBG5B18P-1	POWER RELAY	1	G5B-1-ER18 (18V)
RY2,3,9, 11,14,16	⚠	AEG5J1EM18B	POWER RELAY	7	NE-1540,NE-1580,NE-1880 G5J-1-TP-M-ER18 (18V)
RY2,3,5,7,9,11, 12,13,14,15,16	⚠	AEG5J1EM18B	POWER RELAY	11	NE-2740 G5J-1-TP-M-ER18 (18V)
ZD250		AEDZ20ES3T1	DIODE,SI	1	
REF NO. 82 P. C. BOARD H (U)					
BZ		EFBRL37C20	BUZZER	1	3.7KHZ
CN551		AEEMMB00703R	CONNECTOR (RED)	1	3PIN
D551		MA196-(TA5)	DIODE,SI	1	
Q551		2SD639-PQRS	TRANSISTOR,SI	1	
R551		ERDS2TJ681T	CARBON FILM RESISTOR	1	680Ω,1/4W,5%
R552		ERDS2TJ184T	CARBON FILM RESISTOR	1	180KΩ,1/4W 5%
R553		ERDS2TJ103T	CARBON FILM RESISTOR	1	10KΩ,1/4W,5%
REF NO. 112 NOISE FILTER (U)					
C1		ECQU2A224MNA	POLYESTER CAPACITOR	1	NE-2740 0.22MF,250V
C1,6		ECQU2A224MNA	POLYESTER CAPACITOR	2	NE-1540,NE-1580,NE-188 0.22MF,250V
C2,3	⚠	ECKMNA472ME	CERAMIC CAPACITOR	2	NE-1540,NE-1580,NE-1880 0.0047MF,250V
C2,3		ANE6169A20GN	CAPACITOR	2	NE-27400.022MF,250V
CN1,3		ANE6116Q50GN	TERMINAL BOARD	2	NE-2740
CN9		AEEMMD00703W	CONNECTOR	1	3PIN
D1		ERZC10DK621F	VARISTOR	1	
D2,3		ERZC10DK112R	VARISTOR	2	
F1,2		A62316010BP	FUSE HOLDER	4	
F1,2		A6116-1740	TERMINAL BOARD	2	NE-2740
F3		A62316000GP	FUSE HOLDER	2	
L1		A621A-1440	FILTER COIL	1	NE-1540,NE-1580,NE-1880
L1		A621A3560GP	FILTER COIL	1	NE-2740

DIGITAL PROGRAMMER CIRCUIT

SCHEMATIC DIAGRAM





POWER SELECT SWITCH

S-356GP	S-359GP
○	—

DPC CIRCUIT (U)

	S-356GP	S-359GP
DISP1	—	○
DISP2	○	—
JPR1	○	—
R62.R63.R64. R65.R66.R67	470Ω	—
CN9	—	AEEM08FDZ8TM
CN10	AEEMMF03F06W	—

L.V. TRANSFORMER (U)

	S-356GP	S-357AP	S-359AP
T101	ETP57SJ881MN	ETP57SJ821NN	ETP57SJ821NN
F100	—	—	A62316000GP

PC BOARD Q (U)

S-356GP	S-356BP	S-358GP	S-356GP
○	○	—	—

PC BOARD B (U)

	S-356GP	S-356BP	S-358GP	S-360GP
JPR250	SHORT	6.2K	16K	OPEN
IC251.IC252	AEICPS2505	AEICPS2505	—	—
CN258.CN259 CN260.CN261	A6214-1700	A6214-1700	—	—
R251.R252 R257.R258	220K 1/2W	100K 1/2W	100K 1/2W	100K 1/2W
R253.R254 R255.R256	220K 1/2W	100K 1/2W	—	—
R266.R268 R270.R272	MA196	—	—	—
RY4.RY6 RY8.RY10	AEG5J1EM18B	—	—	—
RY5.RY7 RY12.RY13	AEG5J1EM18B	AEG5J1EM18B	—	—
RY15.RY16	—	AEG5J1EM18B	AEG5J1EM18B	AEG5J1EM18B

S-356 GP ②

G H I J K L

DIGITAL PROGRAMMER CIRCUIT

PARTS LIST

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
C10,12,13, 17,19,29	AECF50F104Z	CERAMIC CAPACITOR	10	0.1MF/50V
C11	ECA1HM221B	ELECTROLYTIC CAPACITOR,AL	1	220MF/50V
C14	ECEA1CKA100B	ELECTROLYTIC CAPACITOR,AL	1	10MF/16V
C18	ECEA1HKA2R2B	ELECTROLYTIC CAPACITOR,AL	1	2.2MF/50V
C20,21,23, 24,27,28	ECBT1E103ZF5	CERAMIC CAPACITOR	6	0.01MF/25V
C25	ECBT1H101KB5	CERAMIC CAPACITOR	1	0.0001MF/50V
C30,31,32,33	ECBT1H681KB5	CERAMIC CAPACITOR	4	680PF
CN1	AEEMMF00F04W	CONNECTOR	1	4PIN
CN2	AEEMMD1FF09W	CONNECTOR	1	9PIN
CN3	AEEMMD7FF11N	CONNECTOR	1	11PIN
CN4	AEEMMF01F05W	CONNECTOR	1	5PIN
CN5	AEEMMD07D07W	CONNECTOR	1	7PIN
CN6	AEEMMF00703W	CONNECTOR	1	3PIN
CN7	AEEMMF00703R	CONNECTOR	1	3PIN RED
CN8	AEEMB04BP0K	CONNECTOR	1	4PIN
CN9	AEEM08FDZ0TM	CONNECTOR	1	NE-1880 9PIN
CN10	AEEMMF03F06W	CONNECTOR	1	NE-1540,NE-1840,NE-2740 6PIN
CN600	AEEMMG01F05W	CONNECTOR	1	NE-1540,NE-1840,NE-2740 5PIN
CX1	EFOGC4194T4	RESONATOR	1	4.19MHZ
D10,11,13	AEDNERA1502	DIODE,SI	3	1.0A
D12,18,22, 23,24	MA700A-(TA)	DIODE,SI	5	MA700A 0.03A
D14,15,16, 17,19,20,21, 25	MA196-(TA5)	DIODE,SI	8	MA196 0.1A
DISP	A64563030GP	FLUORESCENT TUBE	1	CPR2406C
SPACER	A82843030GP	SPACER CUSHION	2	
IC1	AEIC38121113	IC	1	M38121
IC2	AEIC102977AN	IC	1	SN102977AN/AN6752
IC3	AEICAT24C04N	IC	1	AT24C04N
C4,5	AEICU2004GR	IC	2	A2004G
Q1	2SD2012	TRANSISTOR,SI,2W	1	3MHZ
Q2	2SA720PRTA	TRANSISTOR,SI,400MW	1	200MHZ
Q3,4,5,6	UN4124-(TA)	TRANSISTOR,SI,300MW	4	
Q7,8	2SC1318QSTA	TRANSISTOR,SI,400MW	2	200MHZ
Q9	UN4111-(TA)	TRANSISTOR,SI,300MW	1	
R10,11	ERDS2TJ151T	CARBON FILM RESISTOR	2	150Ω,1/4W,5%
R12,17,20, 21,22,24,25, 26,27,38,39, 40,46,47	ERDS2TJ103T	CARBON FILM RESISTOR	14	10KΩ,1/4W,5%
R13	ERDS2TJ823T	CARBON FILM RESISTOR	1	82KΩ,1/4W,5%
R14	ERDS2TJ390T	CARBON FILM RESISTOR	1	39Ω,1/4W,5%
R15,16	ERDS2TJ152T	CARBON FILM RESISTOR	2	1.5KΩ,1/4W,5%
R18	ERDS2TJ222T	CARBON FILM RESISTOR	1	2.2KΩ,1/4W,5%
R19	ERDS2TJ220T	CARBON FILM RESISTOR	1	22Ω,1/4W,5%
R23,28,29, 33,35,45,48, 51,56,57,58, 59,61	ERDS2TJ102T	CARBON FILM RESISTOR	19	1.0KΩ,1/4W,5%
R32,52,53, 54,55,60	ERDS2TJ104T	CARBON FILM RESISTOR	6	100KΩ,1/4W,5%
R34,36	ERDS2TJ333T	CARBON FILM RESISTOR	2	33KΩ,1/4W 5%
R37,42	ERDS2TJ332T	CARBON FILM RESISTOR	2	3.3KΩ,1/4W,5%

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
R41	ERDS2TJ472T	CARBON FILM RESISTOR	1	4.7KΩ,1/4W,5%
R62,63,64, 65,66,67	ERDS2TJ471T	CARBON FILM RESISTOR	6	NE-1540,NE-1840,NE-2740 470Ω,1/4W,5%
SW600	A65423030GP	SWITCH	1	NE-1540,NE-1840,NE-2740
ZD1	AEDZ4R7ES3T1	ZENER DIODE,SI	1	RD4.7ES3
ZD2	AEDZ5R6ES2T1	ZENER DIODE,SI	1	RD5.6ES2
ZD3	AEDZ24ES3T1	ZENER DIODE,SI	1	RD24ES3

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